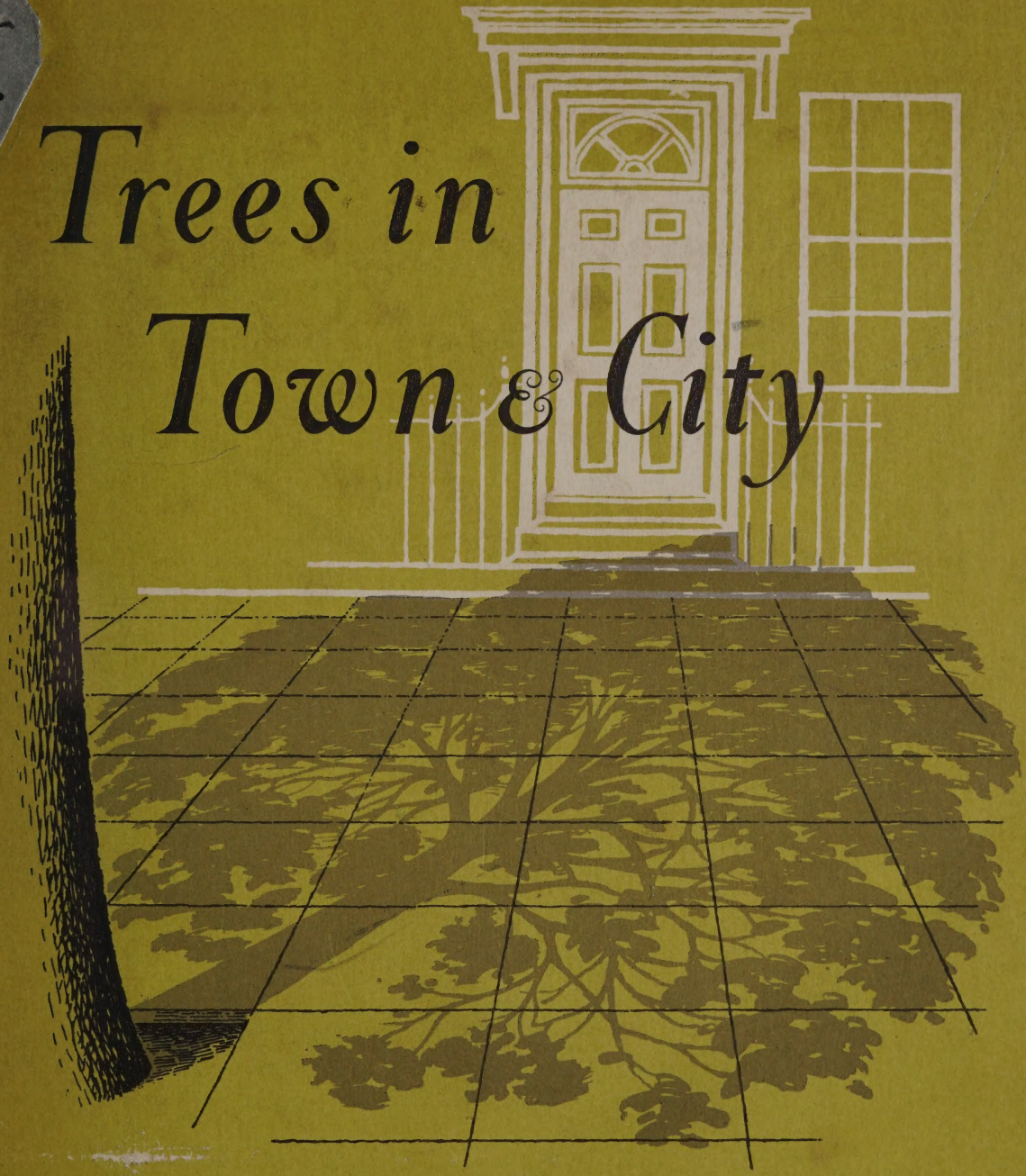
Trees in Town & City



Ministry of Housing
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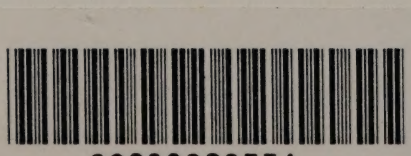
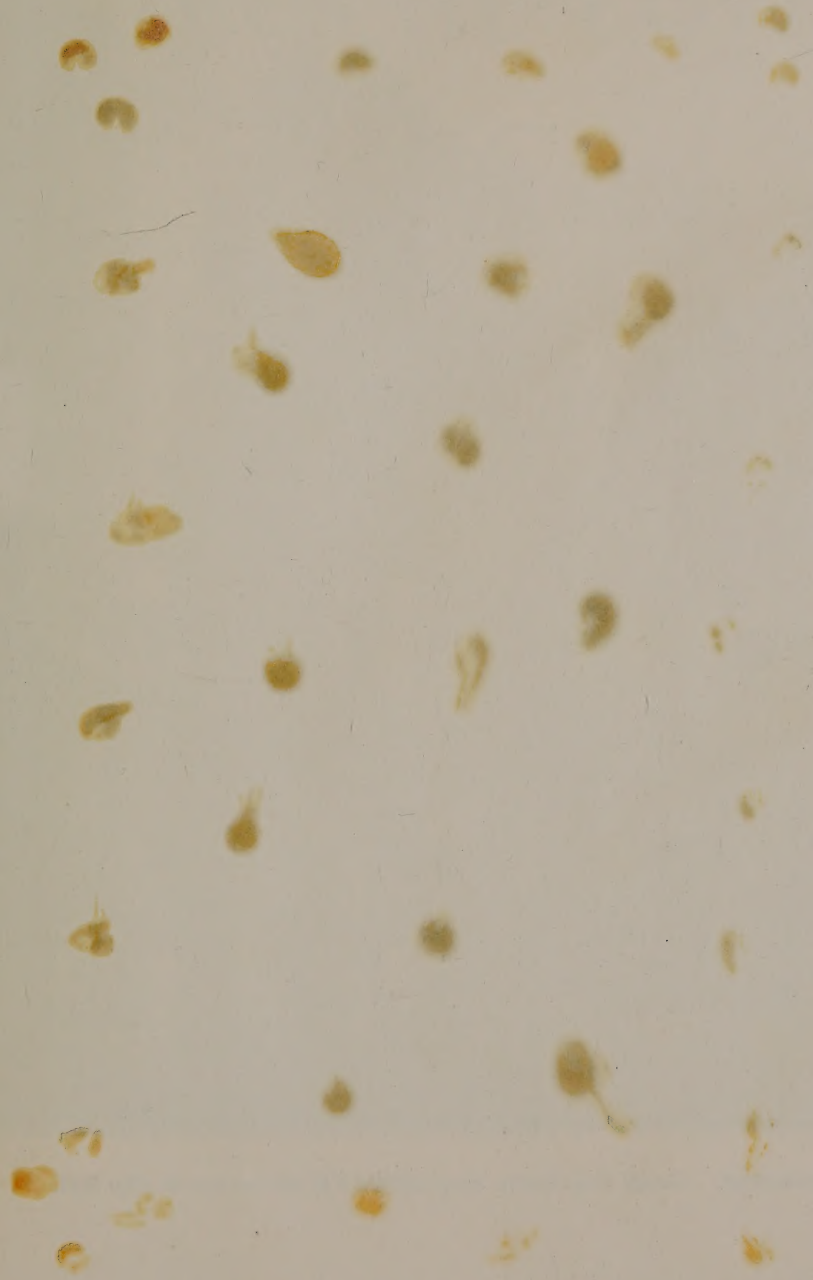
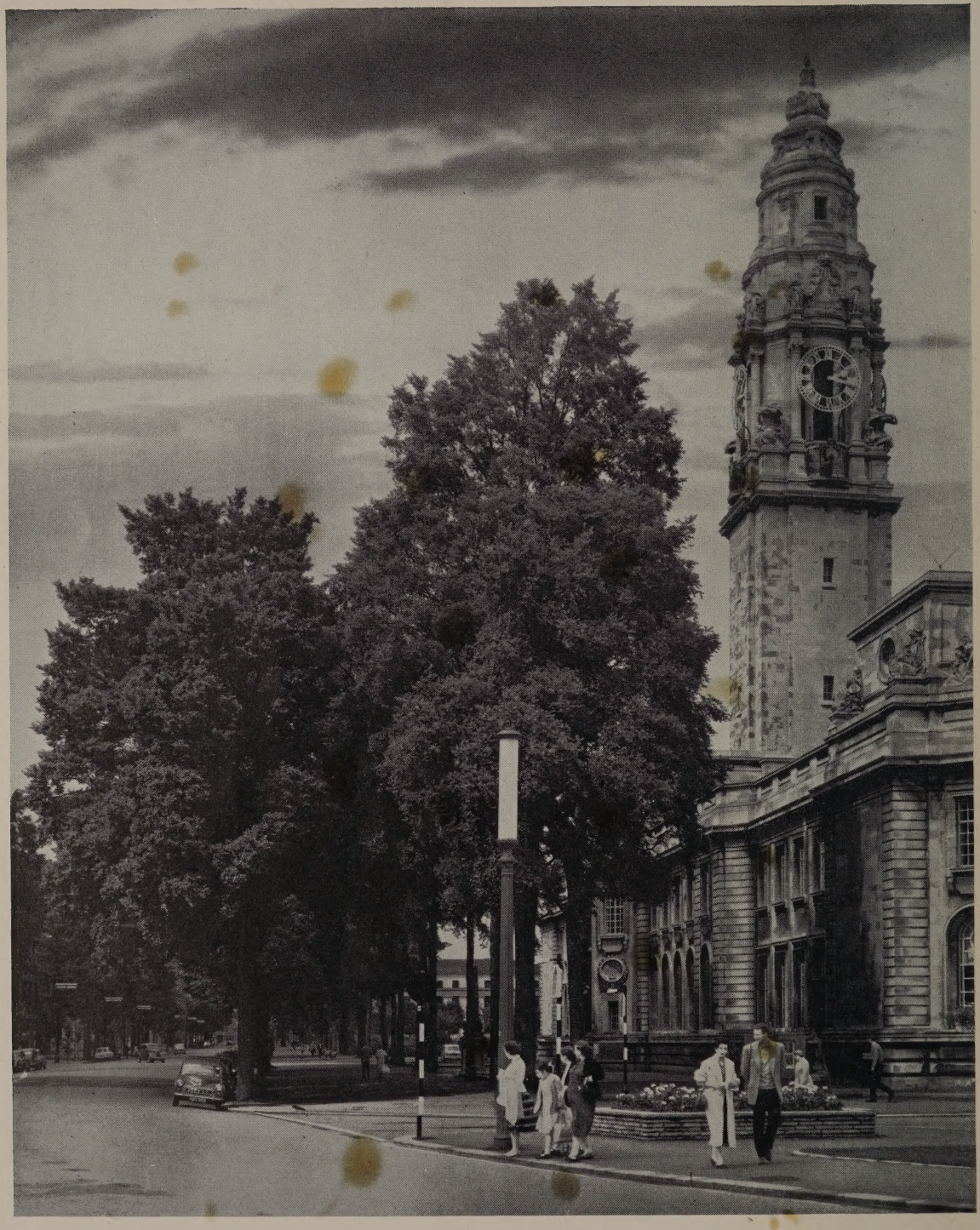
SEVEN SHILLINGS AND SIXPENCE 1958

LONDON: HER MAJESTY'S STATIONERY OFFICE



TREES IN TOWN AND CITY





FRONTISPIECE. *Cardiff Civic Centre. King Edward VII Avenue and the City Hall.*

MINISTRY OF
HOUSING AND LOCAL GOVERNMENT

Trees in Town and City

LONDON
HER MAJESTY'S STATIONERY OFFICE
1958

Foreword

By the Minister of Housing and Local Government

MOST of us tend to take trees for granted. We start to feel strongly about them only when they are felled or mutilated.

But many of the trees and avenues which in summer and winter are a part of the present scene would not be there at all but for people in days long gone by who planted them because they had a thought for the future.

This book describes various ways whereby trees can be used, at relatively little cost, to make towns more beautiful.

Hardly a street could not be improved, if someone would give thought to planting the right trees in the right places.

Wherever new development is replacing old slums, there will be a chance for growing trees in areas almost treeless up to now.

I hope that the book will help and inspire action.

Henry Brooke

ACKNOWLEDGMENTS

SPECIAL mention and thanks are due for the help in compiling the Tree Lists in Chapter IV given by Dr. George Taylor, the Director of the Royal Botanic Gardens, Kew; the Curator, Mr. W. M. Campbell; and the Assistant Curator, Mr. S. A. Pearce. For his help in this part of the work and for his keen interest throughout, gratitude is similarly expressed to Mr. F. P. Knight, the Director of the Royal Horticultural Society's Gardens, Wisley. Both Directors have been frequently consulted in the preparation of the book, and their advice has been freely given.

* * *

Thanks are also expressed to the officers of a number of Local Authorities and New Town Development Corporations, and to a few private individuals, who have generously supplied information on points raised with them.

Thanks for permission to reproduce photographs are due to the following: The British Travel and Holidays Association: 1, 7, 27; C. I. Beecroft: 2; G. L. M. Jenkins: 5, 20, 28, 29, 30, 47, 54, 69, 74, 84, 100; M. L. Jenkins: 6; E. G. S. Elliot: 10, 13, 22, 51, 55, 56, 66, 68, 80, 83; County Borough of Southport: 16; Lever Brothers, Port Sunlight, Limited: 23, 49; R. S. Colquhoun: 25, 57, 58, 59; J. L. Parkinson: 34, 52; Harlow New Town Development Corporation: 38; Airviews Ltd., Manchester Airport: 43; The Liverpool Corporation: 46, 47; Cadbury Bros. Ltd., Bournville: 50; County Borough of Walsall, Parks Committee: 61; Frank Bracewell: 64; Miss M. Paynter: 76, 79; Messrs. Yates, Cook and Darbyshire & Borax Consolidated Ltd: 96; Bristol Evening World: 106; T. C. Coote: 107; and to the Air Ministry, Photographic and Reproduction Branch, by whom most of the remaining photographs were taken.

All photographs have been taken since 1956, with the following exceptions: 1—1950, 16—1948, 23—1951, 25—1952, 26—1946, 27—1953, 43—1953, 46—1931, 47—1946, 50—1938, 57—1952, 58—1952, 59—1952, 62—1945, and 71—1952.

CONTENTS

FIG. 1. *Cheltenham, The Promenade.*

FIG. 2. *A street without trees.*

Introduction

A NATIVE love of trees found expression in two great contributions made by this country to the arts—the landscape gardening and the landscape painting of the eighteenth and early nineteenth centuries; and in places a tradition of respect for trees is conspicuously maintained (Frontispiece and fig. 1).

It is not maintained everywhere. Many trees in towns are stunted in growth or mutilated, and many streets and open spaces that would benefit from trees have none (fig. 2).

To maintain the tradition is the concern of public authorities and equally of the private person whose garden trees can be seen from the street or the windows of other houses. Anyone who cares for the appearance of his neighbourhood can make his opinion felt; and in the long run the use made of trees in towns depends on active and widespread interest among local people.

To be effective, such interest must be based on knowledge and foresight. It is much easier to appreciate trees that are already fully grown than to envisage, before planting, the space that will be taken up in thirty to fifty year's time, and the problems that may then arise in garden or street. The object of this book is to stimulate observation and to try to make people's natural affection for trees more thoughtful and better informed.

In the first chapter, some of the visual effects produced by existing trees in and about towns are observed and commented on. Some of the photographs are of near views of trees and buildings, some taken from further away are of avenues or squares, and some are of distant views taken from the air or from a hill.

The second chapter illustrates what can be done in the future, what practical issues arise when trees are planted or preserved in squares, streets, industrial districts and so on, and how trees can be used in redeveloping old areas and in developing new areas.

The third chapter is about the choice and care of trees, and the fourth contains lists of useful species and of their characteristics. These lists are intended to help in the selection of trees for every kind of use, from planting in a small front garden to landscaping a main road.

FIG. 3. *Westminster, Belgrave Square. This well-pruned plane stands about 25 ft. away from the corner building.*

FIG. 4. *Wandsworth. Trinity Road, Fitzhugh Estate.*

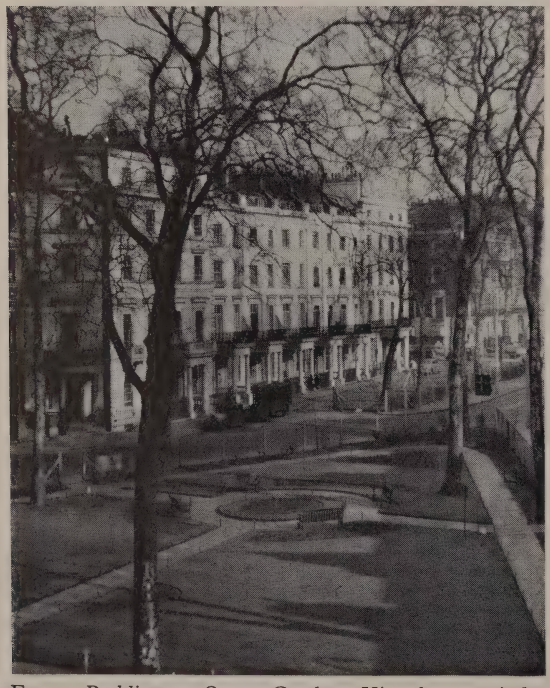


FIG. 5. *Paddington, Sussex Gardens. View from a window in March,* 1957.

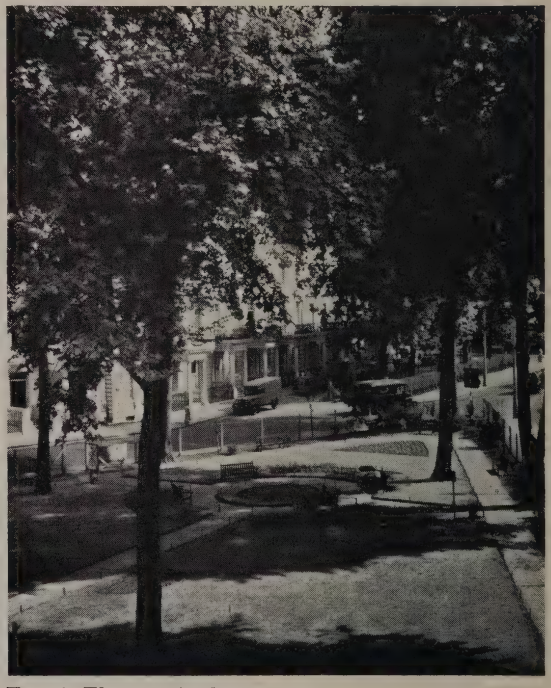


FIG. 6. *The same in the summer.*

CHAPTER I

Trees and the Town To-day

NEAR VIEWS

In near views the effect of trees in their setting is complex, changing and often accidental. The scene shifts rapidly as the observer moves; it depends on the season; it changes as trees grow and wall surfaces weather or are painted. Yet trees whose growth is unrestricted rarely look misplaced; they bring a living quality to the hard surfaces and angular shapes of roads and buildings.

The close relationship in which a single tree may stand to a building in winter is illustrated by fig. 3. The silhouette and shadow of branches and twigs intricately decorate the walls.

When trees come into leaf, they appear to detach themselves and stand more solidly and simply across the background. In summer, the roundness and deep shadow of the chestnut trees in fig. 4 contrast with the hard rectangular patterns of contemporary architecture.

The seasonal transformation of the familiar view from a particular window is illustrated in figs. 5 and 6. These photographs were taken from a flat in Paddington. In winter the trees frame and criss-cross the terrace opposite; in summer they block out the view of the buildings, drawing attention down to the triangular garden and to the sunlight, shadow and shades of green in grass and foliage.

The impression of happy accident produced by most single or irregularly-spaced deciduous trees has a special value whether or not it is deliberately contrived. This is illustrated by photographs of two localities of very different character (figs. 7 and 8). In the first, of High Street, Oxford, is a sycamore which has been described as one of the most important trees in the world. To the long sequence of distinguished buildings it adds a simple but definite natural touch. The second shows a group of planes, in a churchyard, forming a pleasant feature of a stretch of main road in Camberwell.

The irregular shapes and positions of trees can be used deliberately as a contrast to architectural regularity. This was frequently done when planes were planted here and there in the centres of London squares (fig. 9). It is equally effective in Crawley (fig. 10). The factory, seen between slender stems and under light foliage, was sited in relation to the existing coppice.

Similarly, the trees shown in figs. 11, 12 and 13 are used freely and informally. Yet their place and purpose in each of the three scenes is distinct. Confined to the ends of Alexander Place, Kensington (fig. 11), they help to complete the urbane and intimate space formed by the terraces of Georgian houses. By contrast, trees in profusion along the roadway in fig. 12 themselves compose the scene; most of the houses are hidden. In fig. 13 the arrangement of trees, buildings and open space produces an impression of a village green. But the sense of random growth is more apparent than real. The poplars in the foreground were deliberately used for their vertical forms to contrast with the long low horizontal lines of the cottages.

Landscape design can be based on the definite and characteristic differences in the size and colour of different species of tree. But in only a few species, such as the Lawson's cypress, will the *shape* of the free-standing separate tree provide a dependable formal element in the composition. The growth of most free-standing trees is—pleasingly—irregular.

FIG. 7. *Oxford, High Street, from The Queen's College. A sycamore.*

FIG. 8. *Camberwell, Camberwell Road. Planes in front of Emmanuel Church.*

FIG. 9. *Holborn, Bedford Square.*

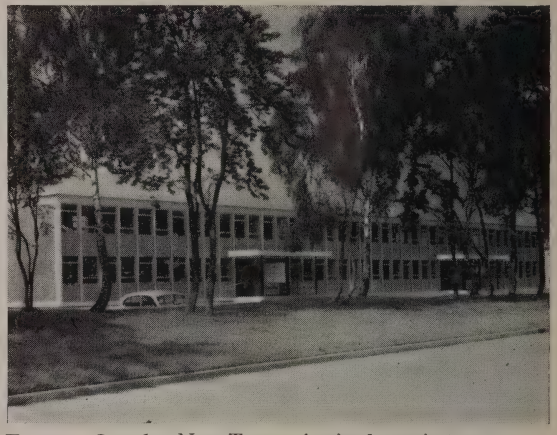


FIG. 10. *Crawley New Town. A mixed coppice.*

FIG. 11. *Kensington, Alexander Place.*

FIG. 12. *Raynes Park, Dennis Park Crescent. Silver birch and flowering cherries.*

FIG. 13. *Welwyn Garden City, Shortlands Green.*

EFFECTS ON A LARGER SCALE

Trees growing in a group have a rather different quality which is of great importance to the town designer and makes it possible for him to use them more confidently as clearly-defined masses and shapes. The leaf canopies of trees, like those of other plants, tend to complete each other. Trees in the centre grow higher to get their share of the light; the others grow sideways towards the open, with the result that the shape of the group is like that of the single specimen enlarged and simplified. Thus the relatively irregular vertical form of the individual tree can be merged in bigger rounded or horizontal features. This is illustrated by a single tree and groups of three and six at Reigate Priory (fig. 15). All except two of the trees are limes—an oak in the smaller group and a chestnut in the larger. Clumps, copses and lines of trees can thus be given particular shape and extension in larger scale design.

Fig. 14 shows how a small wood has been preserved as a counterpoise to factories in the industrial area of Crawley. In Lord Street, Southport (fig. 16), the curved mass of the avenue of trees obscures the buildings on either side and increases the powerful effect of the line of the street cutting straight through the town.

In fig. 17 the high continuous band of foliage of trees in a close-set line along Grosvenor Road, Westminster, and the successive columns of the trunks, distract attention from the broken series of low buildings and wharves which would otherwise impair the appearance of the Embankment.

Fig. 18 shows plane trees standing along one side of Parliament Square. The bar of foliage, with the parallel stretch of paving, frames and emphasises the clear stretch of grass. The value of the design depends partly on the high-branching patterned trunks and is not diminished by the regular slope of the trees leaning inwards over the paving towards the light.

FIG. 14. *Crawley New Town. The industrial area.* *Photoflight Ltd.*

FIG. 15. *Reigate, The Priory. Clumps, with trees on the left screening the road to Brighton.*

FIG. 16. *Southport, Lord Street.* *"Southport Visiter."*

FIG. 17. *Westminster, Grosvenor Road.*

FIG. 18. *Westminster, Parliament Square.*

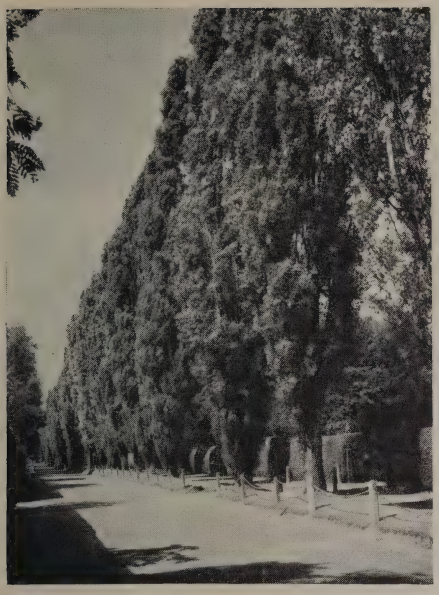


FIG. 20. *West Harnham, near Salisbury. A factory screen.*

FIG. 19. (*Left*) *Woodcote, near Purley. Promenade de Verdun, commemorating the first World War.*

FIG. 21. *Westminster, The Mall.*

FIG. 22. *Welwyn Garden City, Parkway.*

FIG. 23. *Port Sunlight. Guernsey and wych elms along The Diamond.* *E. N. Hemmings.*

FIG 24. *Wandsworth. View from a tall block at Ackroydon.*
Millar and Harris.

FIG. 25. *Ludlow, from Whitcliffe Hill.*

FIG. 26. *London.*
An aerial view from over St. James's Park.

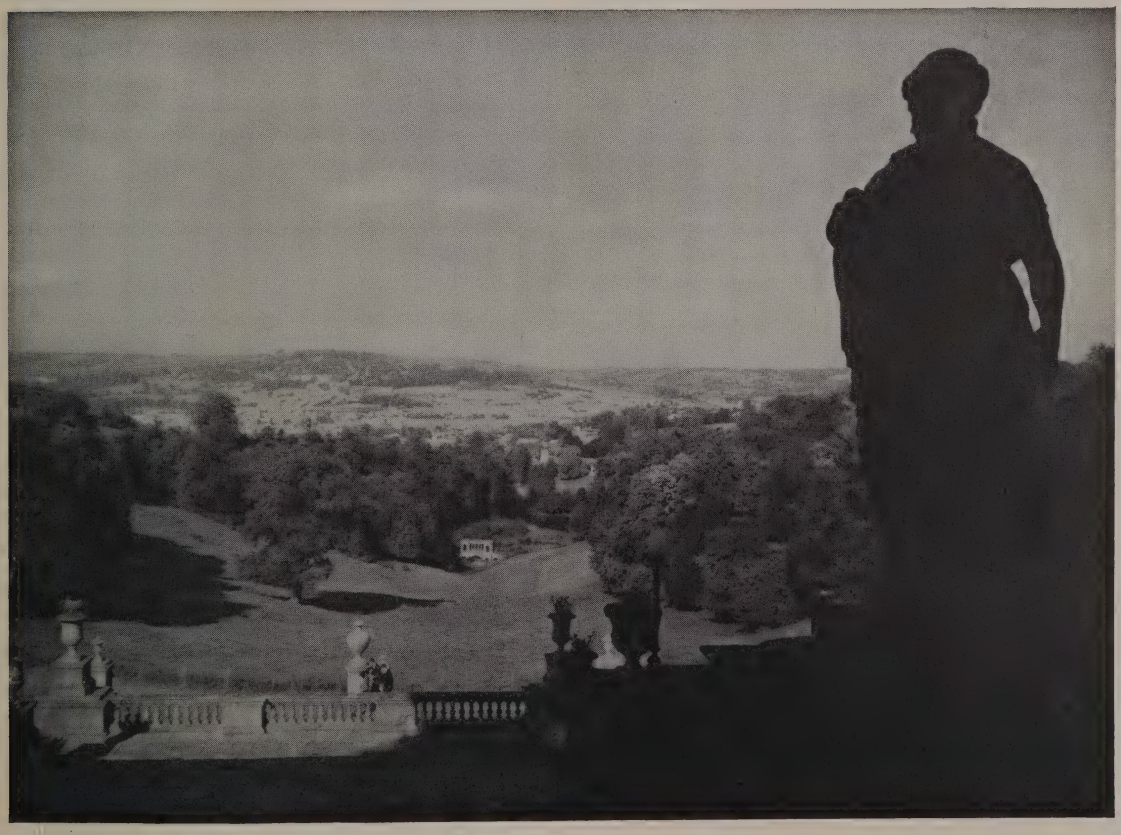
Trees in a line may seem to form a more regular, solid wall than they really do. In a street they are normally seen along the line of the street, so that spaces between them are less apparent. Thus the row of Lombardy poplars in fig. 19 is much more effective than a screen of the same trees looked at from in front (fig. 20). The impression of regularity is greatest where trees form a long straight avenue.

Trees in figs. 21 and 22, and those in Port Sunlight (fig. 23) which are used to complete the effect of a layout of buildings, have a formality or symmetry which is not traditional in England. Trees marshalled between monumental façades or towards a terminal feature are found more often in other parts of Europe. But the equally effective use of trees in irregular masses to form less rigid perspectives for particular viewpoints is exemplified in parks and gardens all over the country (fig. 27).

DISTANT VIEWS

Trees are often dominant and striking in views from a tower or a hilltop or in low oblique views from the air. Big trees are taller than most buildings and take on their full relative importance when seen over the roofs of the town. In each of the three photographs opposite they produce a sense of the affinity of town and country, seeming, in fig. 24, to flow in round the buildings; in fig. 25, almost to submerge Ludlow in the countryside; and in fig. 26, to stretch out in dark patches across central London to the hills at Highgate. Trees appearing impressive in the distance may be disappointing when seen in the streets. Nevertheless panoramic views are valuable in their own right; they are a kind that is remembered.

FIG. 27. *Bath from Prior Park.*



CHAPTER II

Planning for the Future

THE PROBLEM

QUESTIONS about the future use and care of trees in different parts of the town are considered in this chapter and the next. Should they be used singly or in clumps and lines? How can they serve to relieve the monotony of a view or to give shelter from noise and wind? What precautions have to be taken to protect buildings, traffic and so on against dangers from roots, branches and fallen leaves, or to ensure that the trees themselves will live? What trees should be chosen in different conditions and for different effects? When and where should they be thinned out or felled?

Trees are hardly less important in industrial areas and private housing estates than in town centres and public gardens, but they are rarely used consistently. To ensure that they will be given equal consideration everywhere some Councils have carried out extensive surveys of existing trees and of opportunities for planting. Some Councils and some private developers consult outside experts—arboriculturists and landscape architects; others employ them on their own staff. Some use models in laying out particular areas to give a three-dimensional idea of buildings, spaces and trees. Clearly no detailed prescription for tackling this problem can be given; but the essential point is to organise collaboration between the people or committees concerned with the roads, houses, schools, parks, open spaces and other places where trees may grow. It can happen that trees are passed over as being everybody's and therefore nobody's responsibility.

TREES IN THE URBAN PATTERN

Central places and special viewpoints

Nowhere are style and appearance more important than in the various key points of the town—the streets and squares where the currents of commerce, administration and urban life in general converge and where space is most valuable.

These central places provide views, along the High Street, from the bridge or into the Cathedral Close, by which towns are known and remembered. Where trees would add to such views—as they do, for instance, by growing in the churchyard at a curve of the main road in Huntingdon (fig. 28)—planting, even on odd corners of land, will be worth considering carefully. A riverside freed of old wharves may provide opportunities; reflections and the sense of space in stretches of water strengthen the effect of trees (fig. 29). Or, if the scene is to be changed by new buildings, these can be sited and designed with special regard to trees as well as to surrounding buildings. Position, height and massing cannot always be arranged to suit existing trees, but surprisingly happy results are often possible. In fig. 30 a tree has been kept which dominates the scene and makes quite unimportant any conflict between the style of the new shops on the right and of an old inn on the left.

In busy streets where buildings are large and close-set and present high and continuous façades to the roadway, trees will not hold their own against them or attract attention if they are separate and small or spindly; but if they grow freely in spaces where the façade is interrupted their presence is

refreshing (fig. 31). Again, in spaces between important buildings where big trees look well, as in fig. 32, a scatter of small trees, such as mop-headed acacias, would be ineffective.

A small tree, however, is not necessarily out of scale with a big building. The contrast will not matter if the tree decorates the building, as the magnolia does in fig. 33. There is also a place for decorative trees in movable containers, or planted out for a limited time, either for ceremonial functions or for summer display (fig. 34).

The completeness and character of some urban compositions may warrant the exclusion of trees, and care is always needed not to obscure buildings which should be seen; but, generally, growing things are welcome as a contrast to lifeless structures, and still more as a note of serenity in traffic and in the complexity of urban detail (fig. 31).

A great deal of visible detail in the form of street furniture is inevitable. The bollard must be obvious, the lamp unobscured. Trees which interfere with the function of these objects may have to be pruned or even felled; young trees must be planted in the right places. But the problem can be considered from the other side as well. There is almost always a choice of design and location for the objects themselves, and the trees can influence the choice.

One inescapable practical issue is the choice of suitable trees for the limited spaces available in central areas. Trees need varying amounts of space

FIG. 29. *Kingston-upon-Thames. The curving waterfront from Surbiton.*

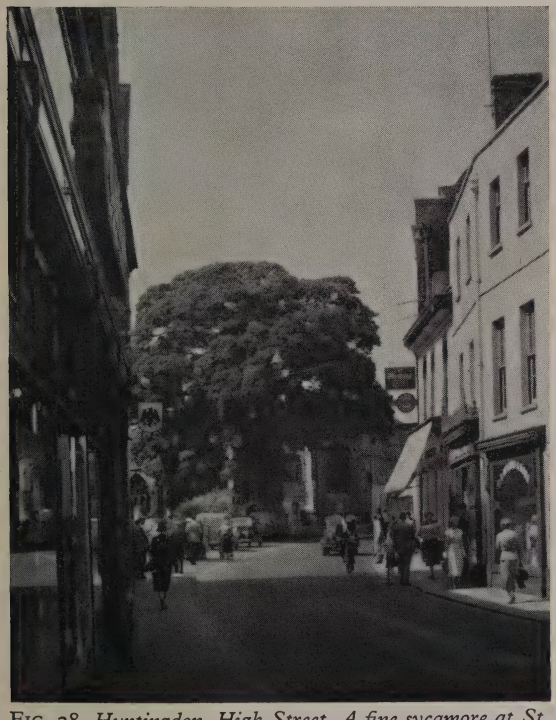


FIG. 28. *Huntingdon, High Street. A fine sycamore at St. John's Church.*

FIG. 30. *Greenwich. The Village, Charlton.*

FIG. 31. *Westminster, Victoria Street.*

FIG. 32. *Hornsey. The Town Hall gardens from Crouch End Broadway.*

FIG. 33. *Oxford, Balliol College. A magnolia.*

FIG. 34. *Manchester, Piccadilly Gardens. An ornamental palm planted out for the warmer months in a central area.*

FIG. 35. *Chelsea, Sloane Square.*

FIG. 36. *Crawley New Town. Pedestrian shopping way from the east.*

FIG. 37. *The same from the west.*

to grow, as they should, to their full size and characteristic shape. (Information on the space requirements of different species, as well as on their other needs, is brought together in the tables of Chapter IV.) In addition, reserves of space are needed to provide for succession by new planting, so that when old trees have to be felled well-grown young ones near them will be ready to stand by themselves, like the chestnut on the right of fig. 32.

Squares

The square, or space of any shape, provides room and scope for trees. They may be used to focus attention as beautiful objects in themselves; to frame an inner area or fill gaps in the surrounding buildings; or to sub-divide the space and give to each part a character, form and foliage of its own. They may accentuate differences in level, when planted on higher ground; or reduce them, when planted on lower ground. Figs. 36 and 37 show the tree that governed the alignment of the pedestrian shopping way at Crawley. This tree is something of an object lesson, being at once a link between the old and the new centres of Crawley, a terminal feature of the new pedestrian way and an element of stability and balance in the small square by which it stands.

In the many town squares that must serve as roundabouts carrying heavy traffic, trees can preserve an appearance of calm, particularly when the design of the square is simple, with wide stretches of grass or paving. From the outer footpath the colour, pattern, detail and scent of flowers may be ignored and a small-featured flower garden seem merely fussy; but trees remain conspicuous.

Growing along the far side of a central island they can help to define the space and, at the same time, screen the view of buildings and traffic beyond. In Parliament Square (fig. 18, page 6), the row of planes serves this double purpose. A low wall and the plants and statues under the trees reinforce the effect.

In Sloane Square two rows of planes, set in a paved area with a fountain, give the centre space, seen from within, symmetry and completeness (fig. 35). The foliage screens the irregular skylines of surrounding buildings but only the trunks of trees interrupt the ground-level view.

A central island surrounded by trees and raised ground or a hedge is cut off much more completely. The private gardens of many London squares designed in this way lie in the " sound shadow " of banks, shrubs and trees and are screened from the noise as well as the sight of traffic. On hot summer days the foliage also provides coolness and shade.

FIG. 38. *Harlow New Town, Stone Cross. View of a model of the market square.*

Fig. 38 is the photograph of a model used in designing the market square at Harlow. The traffic passes along only one side of the square. Here limes have been planted in a double row (which is continued by a single row turning at right angles parallel to the shops). The trees of the double row will eventually form a roadside arcade as well as a visual boundary.

Car parks, bus stations and other urban spaces

Standing in numbers in front of buildings cars may spoil the view, obstruct traffic or occupy space which could well be put to other uses. For these reasons the best place for them is likely to be on the relatively low-value land that is often found behind the shops in the High Street of even quite large towns. Car parks should be close to the centres served; if they are also pleasant they are more readily remembered and may attract more cars. Effective tree planting, which is easy on such land, is worth considering on this score alone. There are other considerations. Whether it is hidden away or not the car park deserves to be regarded not as a dead patch but as a part of the living town, to be planned for its purpose as beautifully and efficiently as possible (Bibliography, item 12).

Trees and hedges can serve to mask the rear of buildings (fig. 39), give irregular car parks a recognisable form, and protect surrounding development against noise and the glare of headlights. Whether trees should be planted among the parking spaces, as well as round the perimeter, is an open question. Cars with closed windows standing on broad expanses of concrete paving get very hot in the summer and first-comers seek any shade that is available; but against the advantage of shade must be set the nuisance of bird droppings, of fallen leaves in autumn, and even the possiblity of damage by branches torn down in the wind. Fig. 40 shows a car park recently constructed in what had been a private garden. Trees, including a mulberry and other fruit trees, and part of the lawn have been incorporated in the layout.

Bus stations have an equally strong claim to sympathetic treatment. Like car parks, they may have to be sited on irregular pieces of land where tree-planting can serve the same purposes of improving and defining the shape of the station, screening unsightly buildings and protecting adjoining property against noise. This last function may be the most important, requiring a ground-level screen of shrubs and a belt of trees at least two deep.

Of parks and public gardens little need be said; the trees there are already deeply appreciated and cared for (fig. 41). The lists in Chapter IV relate as much to parks and gardens as to other urban spaces; it is in these, rather than in streets, that specimen trees of less common species may be grown for their own sake. In the centres of towns many small spaces such as churchyards and old burial grounds, which hardly qualify as parks or gardens, can be arranged both for intensive use and quiet (fig. 42).

FIG. 39. *Reigate. A car park tree screen.*

FIG. 40. *Wandsworth, Roehampton Vale. Parking spaces set among trees.*

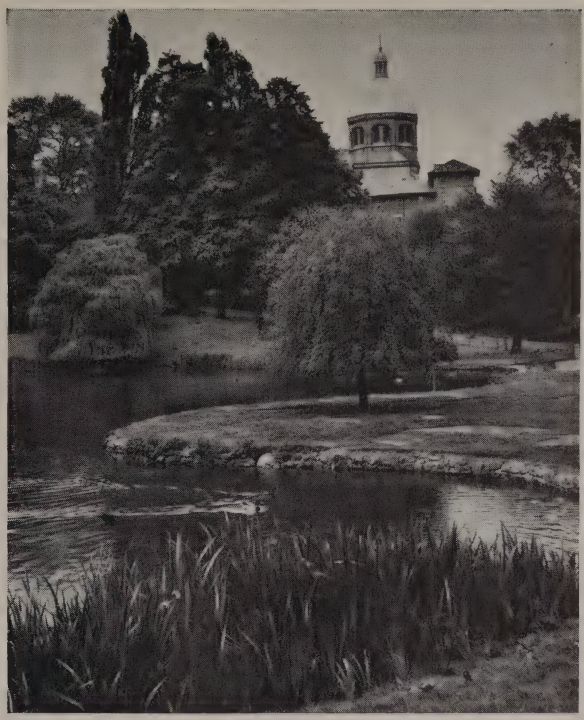


FIG. 41. *St. Pancras. Waterlow Park, Highgate.*

FIG. 42. *Holborn. St. Giles-in-the-Fields churchyard.*

FIG. 43. *Shrewsbury, River Severn. Waterside planting.* *Airviews Ltd., Manchester Airport.*

Streets

In squares there is room to deploy trees freely in patterns of their own. In streets their use is strictly limited by the function and appearance of the road and buildings and by the space available. Narrow streets, for instance, do not provide suitable conditions for the continuous planting of planes. The different uses of trees in streets will naturally reflect some of the differences in character and function of the various parts of the town.

Wide central and processional ways may have their regular avenues. In Paris these extend in a network across the whole city, running from monument to monument and from *place* to *place*. Fig. 43 shows how a waterside avenue may contribute to the style of an English town; recent planting at Shrewsbury renews the curve and radius pattern of trees and river.

Again, on long straight or slightly curving stretches of road leading into a town, trees, as avenues or occasional features, will make the way seem shorter and, particularly if the destination is occasionally glimpsed, more interesting or even dramatic (fig. 44). Foliage can be used incidentally to screen older districts (figs. 46 and 47) or unattractive buildings, or to protect houses against the

noise of traffic and the glare of headlights.

A through road or by-pass may bring a town into view without entering it. Any new building or planting should be planned as part of the landscape which the road reveals. But because such roads may run in cuttings, and because access to them is being progressively restricted, buildings will often be distant or invisible. Sometimes trees in verges, set back at a safe distance from fast-moving traffic, and groups of trees on embankments and on irregular widenings of highway land may compose a separate roadside landscape of their own (fig. 45).

Any new road inside the town will provide opportunities for truly urban design in which buildings are near and conspicuous. It is here and in the old streets of the inner town that single trees or small groups can be tellingly used. If delay in building or a discontinuous layout leaves gaps through which the backs of adjacent property would be visible, trees can be arranged to block the view.

Lesser streets have diverse qualities and needs. In the inner town terraces of fine architecture may stand by themselves or against a background or end feature of trees. A tree may be introduced where a terrace ends, against a side wall, or in the back garden of a house at a street corner (fig. 11, page 4). In the more modern and open suburbs, groups and lines of flowering trees and shrubs can close in and unify the road itself (fig. 12, page 4).

FIG. 44. *Worcester, New Road. A lime tree avenue approaching the city with the cathedral on right.*

FIG. 45. *Gloucester by-pass.*

FIG. 46. *Liverpool, Aigburth Road in* 1931.

FIG. 47. *The same in* 1946.

FIG. 48. *Bermondsey. A factory garden.*

FIG. 49. *Port Sunlight. The first soapery of* 1888-9 *seen across the lawns.* *E. N. Hemmings.*

FIG. 50. *Bournville. A factory in a garden setting.*

FIG. 51. *Crawley New Town. Factories in Manor Royal.*

Industrial areas

The scale of industry varies from that of one-man garage workshops to that of Margam or the aircraft hangars of the Bristol Aeroplane Company; the style varies from that of the painted metal structures, containers and machinery of oil refineries, to the almost domestic architecture of some small factories.

Trees may have correspondingly diverse roles in industrial areas. In the heart of a huge mechanical plant they will be out of style and out of place altogether, but they may be used, at one extreme, to cover the pit heaps and steep slopes of a mining valley and, at the other extreme, to decorate small places of rest and recreation for factory staff (fig. 48).

Figs. 49 to 51 illustrate the part played by trees in pleasant industrial environments closely woven into the fabric of towns and settlements. Lever's (fig. 49) and Cadbury's (fig. 50), and more recently Wedgwood's and other firms, have taken the initiative in creating agreeable surroundings for their workers to live in and garden settings for their factories. Estates of medium or small-scale industry in the New Towns illustrate how well-designed groups of factories, incorporating existing trees and new planting in the design, can assume a pleasant and peaceful atmosphere (fig. 51). Trees need have no less a part in the detail of these designs (fig. 10, page 4).

On the other hand trees may act in a more negative but still useful way as screens or shields.

FIG. 52. *Southampton. Railway screening.*

FIG. 53. *Bermondsey. A factory screen of silver maples.*

There are many species and combinations of species that will serve the purpose. A favourite standby—the Lombardy poplar—is frequently misused. Lombardy poplars are essentially towering forms (fig. 22, page 7); spread out in a screen they lose this quality. They grow fast, but so do many willows. Other poplars grow even faster and spread wider than the Lombardy, and some varieties, among them the *populus* × *robusta*, also produce readily saleable timber. To get better protection from a fast-growing screen, slower-growing trees should be planted in it as well. When these are large enough to be effective alone the others may be felled. Fig. 20 (on page 7) illustrates screening of this sort. Evergreens planted behind the hedgerow thorns are beginning to be visible. The poplars standing alone would not be adequate.

A screen needs to be dense and wide to give protection to houses near a railway (fig. 52), but a single row may be enough to mask a factory. During the summer the maples shown in fig. 53 do this effectively. These trees, since they stand at the edge of an open space, may be compared with the trees in Parliament Square (fig. 18, on page 6) and those in the background of fig. 49.

A screen may be used not to blot out but to distract attention from ugly features. In fig. 54 the slope of the ground and the roadside walls help to produce a successful camouflage.

In fig. 55 the block of standard factories presenting a succession of gable ends to the road does not need to be masked completely. Lombardy poplars screen it lightly, the first two, at least, being spaced so that from this viewpoint their vertical forms tell separately. It is interesting to see how a comparable effect is obtained with a tree of completely different form. In fig. 56 an irregular line of five mop-headed acacias, supported by trees in the centre background and a frame of tree and shadow on the right, are enough to relieve the monotonous zig-zag of the factory roof lines.

Nevertheless, the choice of the tree should be related to the form of the object to be obscured. To

use Lombardy poplars against a background of tall chimneys may produce an effect of confusion. As these photographs show, a right choice can make otherwise unattractive scenes acceptable or even positively interesting.

To plant a screen, even of fast-growing trees, close against something to be hidden will not be rapidly effective, and may never be effective with massive objects. One of the misuses of Lombardy poplars is to plant them against big gas holders. Round the fully extended bulk a fringe of these trees looks merely foolish.

It is sometimes worth considering an alternative solution: a mask of trees planted nearer the viewpoint. When a curve in the road or a break in a façade of buildings provides a valuable outlook point, the scene can be improved by masking of this kind. Single trees or clumps suitably disposed will eliminate intrusive background features, such as a transformer station or coal tip. The nearer the trees are planted to the viewpoint the quicker will be the effect (fig. 57).

Again, trees growing in a line or irregularly in the foreground may break up and change the character of otherwise grim sequences of industry in the middle distance. Figs. 58 and 59 illustrate from neighbouring viewpoints the kind of transformation possible.

Where the ground itself is ugly, being derelict or waste, trees planted on it may not only hide it but also help in its reclamation (see Bibliography, item 18). Fig. 60 shows how the planting of trees on a colliery tip in the small mining town of Radstock, south of Bristol, has brought back a rural freshness and character to a settlement which was previously overpowered by a bare and sordid hill of coal waste. Similarly, an area of extinct coal and mineral workings at Walsall has been transformed into parkland (fig. 61). The reclamation of Reedswood Park, begun in the last century and continued at intervals since, involved preserving many existing trees, extensive regrading of the surface and much new planting.

FIG. 54. (*Top*) *The Torquay-Paignton Road. Preston gasworks.*

FIG. 55. (*Centre*) *Welwyn Garden City, Broadwater Road. Lombardy poplars.*

FIG. 56. (*Bottom*) *Welwyn Garden City, Woodfield Road. Mop-headed acacias.*

The town as a whole. Its limits and landscape

Figs. 25 and 26 (page 8) illustrate wide and distant views. The town has to be given a place in the landscape, and perhaps the first and main question of policy in planning is to determine how big it should be and how far it should extend in different directions.

Woodlands clearly related to the lie of the land, covering the crests and scarp faces of hills or filling steep-sided valleys, may suggest where outer limits should be drawn; and groups and lines of trees, leading along hill ridges or by streams and rivers into the town itself, may divide it naturally into neighbourhoods and districts and link the central areas with the countryside. Tree preservation orders, arrangements between private owners and the Forestry Commission for growing timber, and the acquisition of land for open space can help in fixing these limits; and a strict control of development can aim at excluding from natural boundary areas all but the "open air" uses which involve little felling and give scope for new planting —playing fields, golf courses or cemeteries.

Often a great house in its landscape of lawn and trees forms a part of the town boundary. Fig. 27 (page 9) is a view from the terrace of Prior Park at Bath with the city in the background. From viewpoints in the town and on the high land to the north it is still, as it has been since 1742, a conspicuous culminating feature at the head of its wooded valley. Even when the use of such land is changed the landscape may be preserved. Prior Park is now a school but this does not diminish its value as marking very beautifully one of the natural limits of Bath.

Trees can thus play a part in the battle to maintain the identity and individual character of towns, not only by being present within them but also by standing conspicuously along their boundaries. They help, by defining limits, to counteract the still all too prevalent irruption and ribboning of town into country.

FIG. 57. (*Top*) *Lichfield. View from The Friary: foreground trees.*

FIG. 58. (*Centre*) *Chelmsford. An unscreened industrial group.*

FIG. 59. (*Bottom*) *The same group from a neighbouring viewpoint.*

FIG. 60. *Radstock, Somerset. A mixed plantation on a colliery tip.*

FIG. 61. *Walsall, Reedswood Park.* *W. Bullock.*

TREES AND REDEVELOPMENT

Improvement and gradual change

Determined straightforward planting in urban areas as they stand, without regard to their possible redevelopment in the distant future, has sometimes been well worth while. The rows of small houses opening directly on to the pavements of " byelaw " streets in Bermondsey are typical of east and south London districts; but, mainly through the initiative of the late Dr. and Mrs. Salter, the atmosphere of these streets is much more pleasant than that of comparable streets in other boroughs. 9,000 trees were planted in them in the early twenties, and these, with the flower gardens on every spare patch of land, have brought untold pleasure to the people who live there. Over a third of the trees planted were black Italian poplars; one-fifth were London planes; there were many ailanthus, lime, acacia, maple and laburnum, and some silver birch, ash, Cornish elm, horse-chestnut, catalpa, birch, rowan and sycamore. Purple plums and double rose-coloured cherries were also tried but they did not succeed. Most of the other trees have survived (figs. 62 and 63).

To-day, in areas like Bermondsey, redevelopment, if it has not already begun, is a much more real prospect than it was 35 years ago. Any trees planted now along the streets are quite likely to obstruct eventual realignment or widening and have to be taken out; moreover big trees planted in narrow streets, such as the planes in fig. 63, tend to grow too big for their positions and are difficult to cultivate and prune. But such considerations would not have daunted the Salters and ought not to prevent planting in older areas.

Four points are worth considering. First, interesting effects can be achieved by some concentration of big trees into suitable spaces and the use of carefully chosen smaller species in narrow streets. Second, healthy trees which get in the way of redevelopment are not necessarily doomed. It may be practicable to shift them to better positions—quite large specimens can now be transplanted (figs. 103 and 104, page 42). Third, the layout and landscape of the long-term future can be planned, at least provisionally, and trees planted where they will ultimately stand. To establish a pattern of trees is a good way to begin the transition to a new environment, and justifies taking the risk that there may be a change of plan. Finally, tree planting is an inexpensive way of improving towns.

In many older areas the transition is going on gradually all the time. Houses having a long span of useful life stand among others which must soon be demolished. Urban renewal takes place bit by bit, and rebuilding does not always follow demolition immediately. Some of the land freed and remaining vacant until other demolitions make new patterns of development feasible can, at least

FIG. 62. *Bermondsey street trees, aerial view.*

temporarily, provide rest gardens for old people and children's playgrounds. In the older parts of London and elsewhere many odd pieces of land have been rescued for these uses and planted with trees (fig. 64). Some of them are being gradually extended and linked together into extensive open space systems (fig. 65).

Clearance and redevelopment

Slums and blighted areas have to be cleared comprehensively and laid out afresh. In general these new neighbourhoods will have more spaces and provide great opportunities for the use of trees. Each scheme will have an individual character, but a few points on landscape design and the practical problems it raises are worth making.

The effect of trees in a layout changes where buildings rise above four storeys or so. Individual trees are less massive than a high block of flats. They may best provide a counterpoise to buildings if they stand apart from them and are grouped together in clumps or lines, each of a single species. But, since the impression of spaciousness is valuable among high buildings, trees may be used to suggest and emphasise, rather than to block, the more distant views. Redevelopment is a new medium to which the English eighteenth century tradition of landscape gardening is applicable.

The protection of trees in the redeveloped area raises difficult problems. The individual tree requires individual protection while it is being established. Trees in a clump have the advantage that they can be fenced collectively and will shelter each other and grow upwards more rapidly. Scattered trees may be dealt with either way, but any long line of surrounding fence destroys the feeling of unity of the space on which buildings stand.

A related problem is ground cover. An ideal solution is to have trees in a stretch of grass running right up to the foot of buildings (fig. 66), but for heavy use a paved or gravel surface—more restful and less obtrusive than seamless asphalt—may be more practical. It need not exclude trees (fig. 67).

The demolition of slums frequently reveals back garden trees previously hidden. Some are well-grown, as in fig. 68, which shows trees standing on ground that once included the garden of John Evelyn's house, but even poor specimens may

FIG. 63. *A Bermondsey street.*

FIG. 64. *Nelson, Lancashire. A rest garden.*

FIG. 65. *Shoreditch. Haggerston Park, with land for extension in the middle distance.*

FIG. 67. *Greenwich, Evelyn Street. Ground cover—paving.*

FIG. 66. (*Left*) *Wandsworth, Southwood Close. Ground cover—grass.*

FIG. 68. *Greenwich, Sayes Court. Redevelopment—well-grown garden trees.*

FIG. 69. *St. Pancras. Fairfield, Arlington Road. Redevelopment—backyard trees retained.*

FIG. 70. *Wandsworth. Wainford Close, Ackroydon. Existing trees reinforced by young silver birches.*

serve as a reminder and a promise until newly-planted young trees mature (fig. 69). Sometimes they may be used to shelter new planting.

One particular problem of redevelopment in towns is noise. Trees are insulators against sounds, particularly high frequency sounds such as children's voices. A single row will have a noticeable effect. A plantation 15-20 ft. in height and depth, dense from the ground to the top and consisting of evergreen trees and shrubs—evergreen oak, holly, yew or laurel—will give real protection (see Bibliography, item 15).

TREES IN NEW AREAS

As a town extends to previously unbuilt or lightly-built land, groups of trees will be encountered, standing not in close relation to buildings but in extensive open gardens, hedgerows or woodlands. The specifically rural or landscape garden arrangements of these trees present a challenge to the designer which is different from that of back garden or street trees in the inner parts of the town.

Garden land

In some places an area of large Victorian mansions, which can be neither maintained nor converted economically, is taken over for more intensive development.

The London County Council has developed an area of this kind at Ackroydon, near Putney Heath, (fig. 70 and fig. 24 on page 8). The existing patterns of trees largely determined the position and height of the blocks. In planning the layout it was necessary to accommodate people at a fairly high density (about 100 an acre over the whole area used), but, at the same time, to preserve from building the land round valuable trees, and to maintain and protect the landscape in the busy urban life created within it. To achieve this balance, about a third of the dwellings have been provided in eleven-storey blocks. Buildings less high, or a greater population, would have tipped the scales, jeopardising the environment of grass and trees.

An essential preliminary to an undertaking of this sort is a survey to record the position of the trees, their species and condition (a tree is valuable only in proportion to its expected span of healthy life), the diameter of their trunks, and their approximate height and spread (the spread may roughly indicate the extent of the root system). This information will be needed in choosing the alignment of roads and mains, as well as in siting buildings. Gas, water and electricity mains are now usually placed beneath paths and road verges, but in freely-designed layouts they can—often economically—be divorced from the road system. The position of buildings, ground levels, the pattern of trees to be preserved and planted, and the alignment of roads and mains may then be worked out simultaneously as parts of the same problem.

Hedgerow trees and copses

Too great a respect for standing trees may produce an incoherent design. This danger arises where building is to take place in a chequer of

FIG. 71. *Bracknell New Town. Priestwood neighbourhood before building in the summer of* 1952.

FIG. 72. *The same four years later in autumn, from a slightly different angle.*

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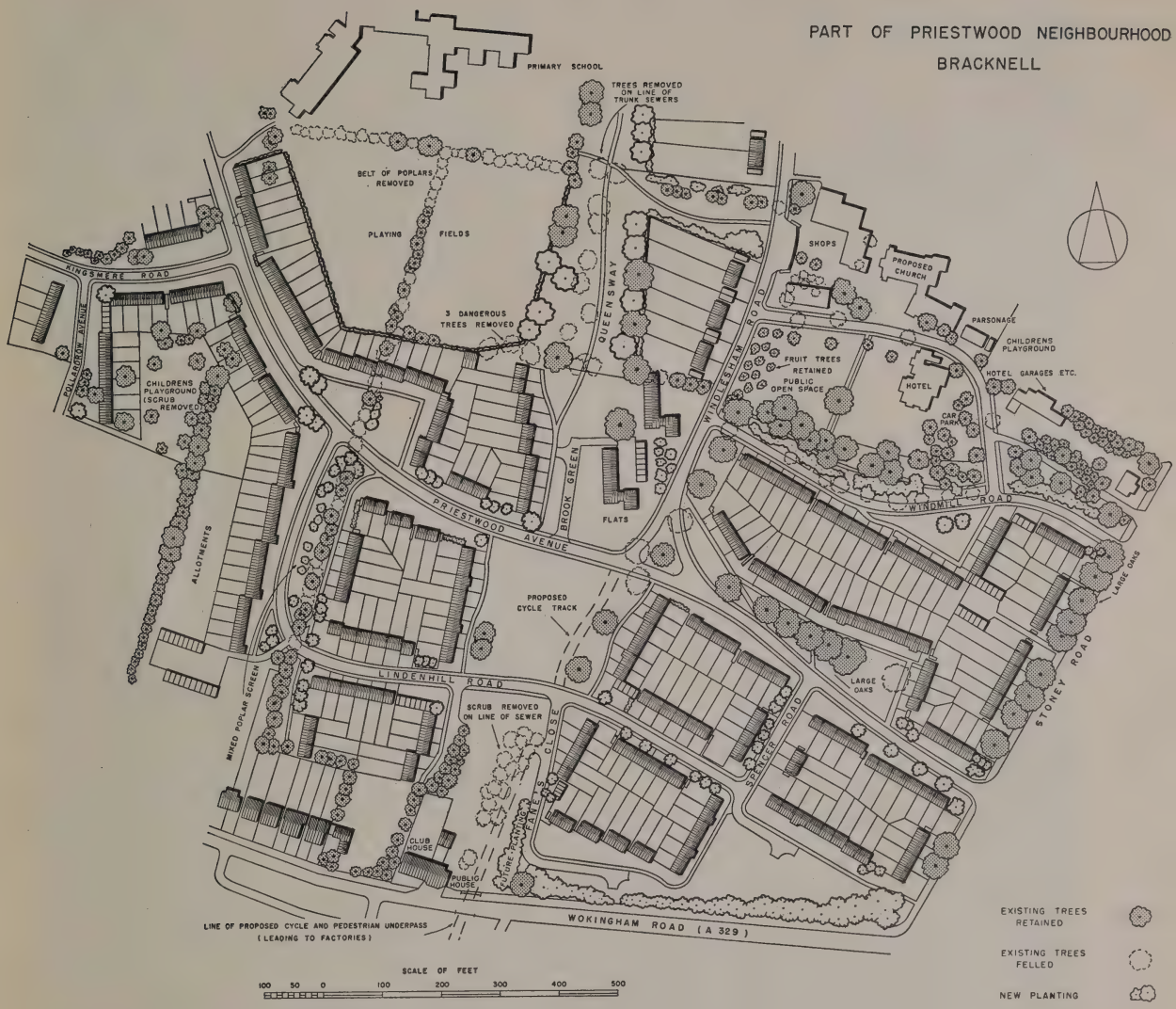

FIG. 73. *Plan in which buildings and trees seen in figs. 71 and 72 can be identified.*

fields outlined with hedgerow trees. Some hedgerows will fall into the town pattern. Some will inevitably strike across it. Even so, trees that are beautiful in themselves may be preserved temporarily while others planted in better positions are growing up. At Bracknell (figs. 71, 72 and 73) a compromise between preservation and new planting has been worked out. Fine oaks have been incorporated in open spaces and greens but weaker specimens have been preserved in areas otherwise treeless; small trees have been put in near to the houses; and a thick line of mixed species has been planted where it will eventually reduce the noise of traffic on the main Wokingham road (fig. 73).

The impression of maturity which trees, even in the wrong position or poorly grown, can give to a new

FIG. 74. *Sheffield. Gleadless Estate from the junction of the Ring Road and the bus route through the Estate.*

FIG. 77. *Harlow New Town. Pedestrian way and cycle tracks through a copse, Mark Hall South.*

FIG. 75. *Harlow New Town. A close at Mardyke Road.*

FIG. 76. *Harlow New Town. Children's playground at Minchen Road.*

estate, is worth having. To fell hedges and hedgerow trees indiscriminately is the worst way to begin. Fig. 74 shows a hedge with trees retained to separate houses from a bus route at Sheffield. The footpath runs behind the hedge.

The copse is more easily fitted into growing towns than the hedgerow. Copses in the Mark Hall South neighbourhood at Harlow have been linked into the town's continuous pattern of open spaces. They provide a background for houses (fig. 75), and include a playground for children (fig. 76) and pedestrian ways and cycle tracks (fig. 77). To keep a copse tidy, however, needs vigilance.

What has been said of design in relation to redevelopment also applies to the extension of towns; but since the scale is usually less, the individual tree can be used more effectively. It can balance a composition of two- or three-storey buildings (fig. 78) as well as relate or diversify spaces. Large trees that branch high cannot altogether close small spaces, but can well be used to mark the entrance to them (fig. 13, page 5).

Practical points

When the position of buildings, roads and mains in relation to standing trees has been fixed on the plan, the success of the more ticklish cases of preservation will depend on careful handling during the work. Building operations are full of danger for trees. Amputation of roots, earthing up of trunks more than about a foot, altering the water table, cutting off water supplies by paving or over-

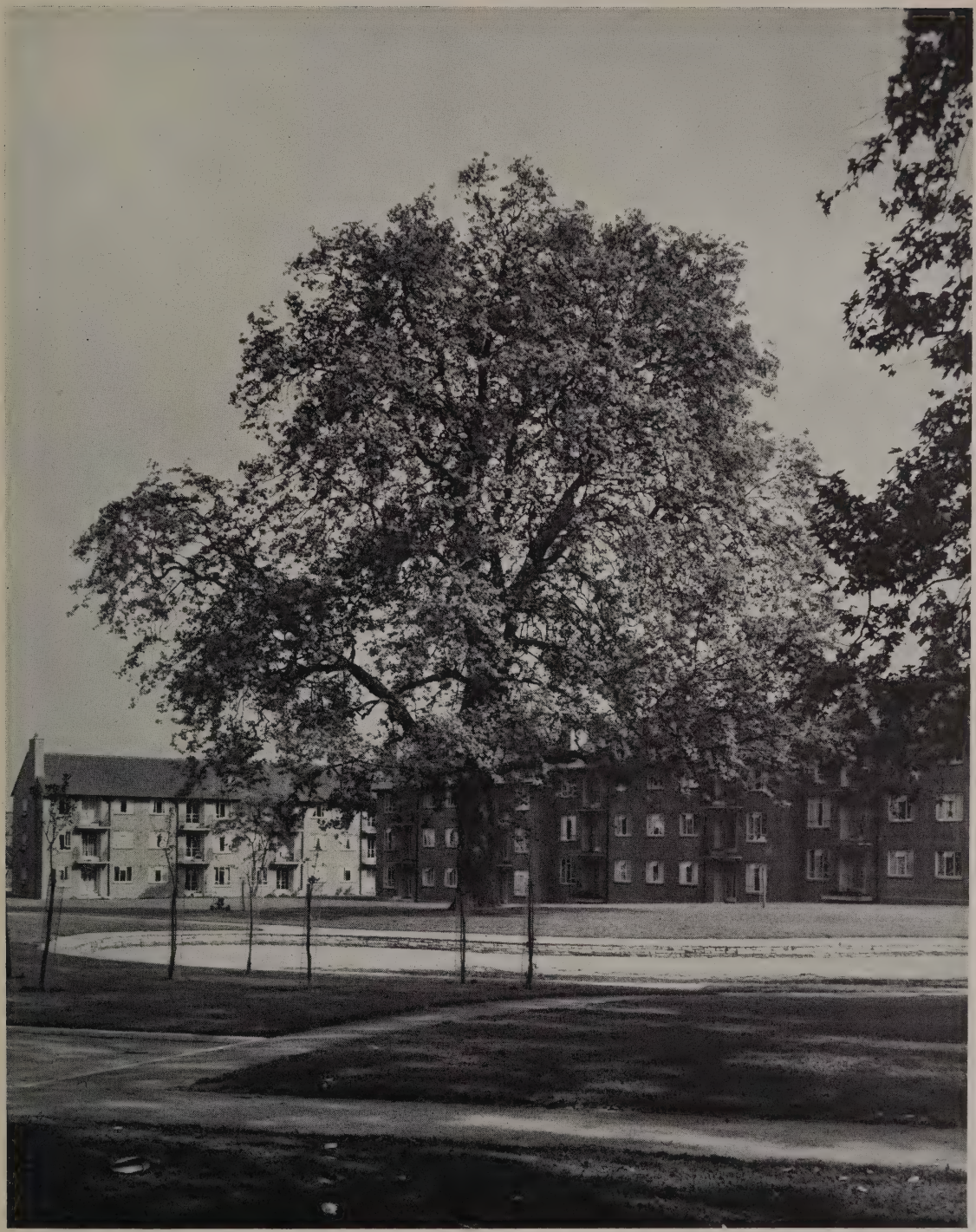

FIG. 78. *Wandsworth. Humphry, Chartfield Avenue, Putney. A fine plane tree among three-storey buildings.*

FIG. 79. *Hemel Hempstead New Town, Market Square. Scots pines on a lower level.*

FIG. 80. *Bracknell New Town, Priestwood Avenue. Hedgerow oaks at a higher level.*

FIG. 81. *Crawley New Town. Findon Road, Ifield. Trees as a focal point for a curving road in a new layout.*

FIG. 82. *Wandsworth. Dover House Road, Roehampton. A chestnut centred in a corner splay, 25 ft. from the houses.*

FIG. 83. *Welwyn Garden City, High Oaks Road.*

FIG. 84. *Beckenham, Stone Park Avenue. Flowering cherries.*

consolidation of the surface, may be fatal. In particular, precautions have to be taken when ground levels are changed. The Scots pines in the market square at Hemel Hempstead (fig. 79), the colours and patterned bark of which contrast with the paving and brickwork, grow from ground kept as a hollow below the level of the adjoining shops. At Bracknell the row of oak trees in Priestwood Avenue (fig. 80) stands on higher ground than the road which has been cut alongside (see also fig. 73, page 29).

Trees need a certain reserve of space and the margin should not be cut too fine. When planted or preserved close against buildings, even if they survive initially, they may later have to be felled because residents complain of danger, overshadowing, or the nuisance of fallen leaves in gutters. Nevertheless, some positions close to buildings are worth investigating such as that between a line of buildings and a road curving from it (fig. 81), and the space in front of the corner splay (fig. 82) or at the gable end of a house (fig. 85). The space in fig. 85 is rather confined, but in the gravel soil of this area roots grow downwards rather than outwards. The nearness of house fronts to the pavement will often determine the size of the trees that can be chosen for planting.

Small species, including ornamental and flowering trees, put just inside front gardens will get more protection than in road verges. If a uniform standard of maintenance and pruning is to be aimed at, the trees may be placed close against the hedge on the outside (fig. 83). Any trees in grass verges should be clear of traffic and at the same time leave a straight run through for the verge mowing machine (fig. 84).

Between the wars it was common for existing trees to be felled as a preliminary to development and for few trees to be planted. Private developers who sold houses freehold had no incentive to provide for landscape effects which would become apparent only in the course of years. There were, of course, notable exceptions. Woodcote near Purley (Bibliography, item 3), where trees were planted in preparation for building that took place some years later, provided one of them (fig. 86), and an exemplary use has been made of trees and existing copses in Bournville (Bibliography, item 33). It was in Bournville that the idea was developed of using fruit trees partly as screens to increase the privacy of gardens. In other cases planting restricted to roadside verges gradually improved many otherwise mediocre layouts.

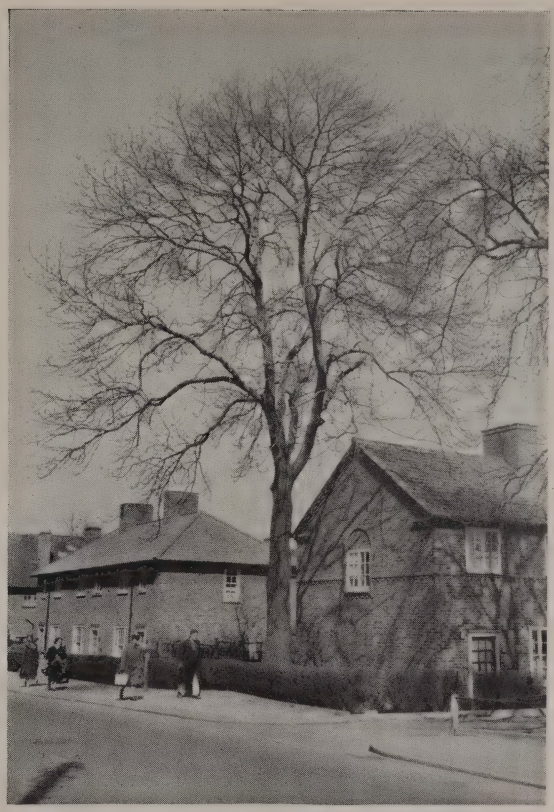

FIG. 85. *Wandsworth. Dover House Road, Roehampton. A hedgerow ash tree. Some thirty years ago the house was sited 12 ft. from the tree, which has since been carefully pruned to clear it.*

Planning authorities can now insist on higher standards of design. They can make tree preservation orders to ensure that fine standing trees are not felled, and since the layout of new estates is subject to their approval they can ensure that roads and buildings are sited to allow for incidental open spaces on which trees can be planted.

But the maintenance of trees on open greens is still a difficult matter. Most developers are unwilling to provide greens with trees unless they can sell them or pass on the responsibility for their maintenance. Local authorities may prefer to accept such responsibility only on their own estates, and future residents, who have most to gain, are not present to defend their interests.

If the deadlock is to be broken it usually will be by the initiative of local authorities. Better landscaping on private estates implies higher rateable value and contributes to the character of a town. It is well worth some outlay.

Shelter belts

If extending towns have to use exposed sites the strength of the wind can be reduced by belts of hardy trees (Bibliography, items 21 and 41).

The prevailing wind is not necessarily the most to be feared. It may be light and warm in comparison with less frequent winds from other directions. Meteorological data regarding the force and temperature, as well as the frequency, of wind are needed to show what protection is necessary.

Well-designed shelter belts reduce wind to leeward for a distance of 20-30 times their height. Those in very exposed positions need to be a chain or more wide, but not too dense since a sudden check causes turbulence and gustiness. In other positions a double row of willows or poplars may serve. Lower trees and shrubs, such as thorns, mountain ash or dogwood, can often be used with advantage on the windward and leeward margins. A belt will be planted at right-angles to the wind from which it is to give shelter but a short extension at each end—curved back to leeward so that seen from the air the whole belt is convex or shield-shaped against the wind—may improve its effect. The trees may need artificial shelter (wattles or a rough stone wall) until they become established. Grown trees in an exposed position get protection from numbers, but if some are felled the rest may succumb.

Suitable existing copses and spinneys can be used to protect groups of buildings laid out behind them (fig. 87). Woods of this kind may serve as visual backgrounds and pleasant places to walk in as well as some protection against the weather.

FIG. 87. *Gateshead, Cedars Estate.* *James Riddell.*

FIG. 86. *Woodcote, near Purley. Silver Lane in springtime.*

CHAPTER III

The Choice and Care of Trees

THE CHOICE OF TREES

It is sometimes supposed that countryside trees, those that are common in the woods and on farmland (and sometimes loosely called forest trees), are unsuitable for towns because they are inconveniently large. But countryside trees are not all large. The rowan and thorns are small and ornamental. Nor are large trees always out of place in urban settings. Not many countryside trees are larger than certain trees that have long had an accepted place in towns, such as the plane and the cedar of Lebanon. They are not necessarily inconvenient. Harm can be caused by certain species of tree in certain conditions, but it is wrong to condemn trees of the countryside generally or to think that any " town tree " can be used indiscriminately.

Damage to foundations and to underground pipes and conduits normally results from a conjunction of two circumstances—a rapidly growing lateral root system and a shrinkable clay soil (Bibliography, item 20). Young trees of a fast-growing species, such as poplar or willow, abstract moisture rapidly from the ground and may cause a shifting and subsidence in certain clayey formations. Foundations are also liable to settlement if laid in clay soil on top of the roots of a mature tree even as far as 30 ft. from the trunk.

Nuisance from fallen leaves and the shadow of foliage is also related to the species and position of the tree. There are large trees with light foliage (e.g., the acacia) and small trees with dense foliage (e.g., the holly). The removal of branches, properly done, can reduce the density of foliage.

There are certain general factors which restrict choice. One is a cold climate; along the coasts wind is a main problem, and in certain parts of the country frosts can be severe. Another is a smoky atmosphere; in some towns smoke has in the past, and may still, rule out some species of tree. But, even in towns where the climate is cold, sheltered positions may be found where frosty air does not stagnate; in these, less hardy species of tree may survive. And as smoke pollution is reduced planting will succeed in urban areas where it would previously have failed.

There is every reason, therefore, not to let preconceptions dictate the choice. When the conditions of the particular site have been studied in relation to the effect that is wanted the right kind of tree can be chosen for each spot. There it should be used exclusively; grouping with potential competitors of other kinds is best avoided.

Several published lists of trees are to be found in books or articles mentioned in the bibliography at the end of the book. The list that follows first in Chapter IV contains the names of relatively few trees—136; but all of them are capable of playing some part in the average British town. The list is also limited, generally speaking, to trees that can ordinarily be bought from nurserymen, but a few species that may be more difficult to get, such as the cedar of Lebanon (fig. 88) and the Wellingtonia (fig. 107, page 44), are included for the sake of their special character or interest. Towns would be poorer without them. On the other hand a few familiar trees are not listed, among them the common sycamore (*acer pseudoplatanus*) and the deep pink double cherry (*prunus serrulata* ' Kanzan '). Better alternative varieties of *acer* and *prunus* are included instead.

The trees are classified as large, medium, or small. No specific heights are given, since conditions of growth vary widely; trees will not grow to the same height in confined, paved spaces as in parks. Within each of these three main divisions

FIG. 88. *Wandsworth. The cedar of Lebanon at Granard Primary School, Ashburton, Putney.*

the list is in alphabetical order of common English names. The cultural notes against each item are no more than general indications. The list is supplemented by another of the same trees under their Latin names in alphabetical order.

In addition to the lists there is a table of characteristics intended to simplify the process of choosing a tree for a particular purpose in particular conditions. The table should make it possible, for example, to select quickly the names of a few alternative species of spring flowering trees suitable for a street in a smoky atmosphere, or of trees for a shelter belt by the sea. The table is not by any means comprehensive and should not be relied on to the exclusion of the lists, and neither the table nor the lists will make it possible to dispense with the expert advice of the nurseryman or landscape architect.

No good choice can be made without visual knowledge of the grown tree. Species that are not familiar can be seen at the Royal Botanic Gardens at Kew, the Royal Botanic Gardens at Edinburgh, and the Royal Horticultural Society's Gardens at Wisley, Surrey, and in a number of public parks and private gardens open to the public. Reference may be made to National Trust publications, " The Gardens of England and Wales " published annually under the National Gardens Scheme, and " Historic Houses and Castles in Gt. Britain and Northern Ireland " (Bibliography, items 43, 44 and 45).

PLANTING AND MAINTENANCE

Planting and care of the young tree

In exposed places, or where winters are severe, planting should be done in the spring. Elsewhere autumn is the best season, although normally deciduous trees can be planted during any mild weather between about November and March. Evergreens should be planted when the ground is moist, in autumn or spring rather than in winter.

Planting in towns needs special care, since the soil, subsoil and natural drainage may have been disturbed. The bottom of the planting position should be thoroughly loosened, good topsoil used for filling, and wide drainage grills fitted so that the tree gets a good supply of water. The young tree should have a well-developed root system and a strong stem six feet or more in height to the fork, so that the shoots are clear above head height and out of reach of children. The roots should be buried to the same depth as in the nursery. Ties should attach the stem firmly to a strongly fixed stake to hold steadily without chafing in a strong wind.

Some local authorities grow young trees in containers. Such trees can be brought to a relatively mature state to produce a greater immediate effect when they are transplanted. They may simply be sunk with their stake and surrounding soil into a hole prepared in the way described.

Regular inspections of newly planted trees are needed so that ties can be re-adjusted where necessary (maladjusted ties are a common cause of damage) and injured or unhealthy trees detected and replaced. Growth will be helped during the first years by periodical weeding, hoeing, cleaning of drainage grills, and top dressing. Regulation of the water supply is also important. Trees should not be planted in positions that may get waterlogged nor in those which dry out quickly. Roots searching for water may cause damage to foundations and underground services. In dry weather young trees should be watered regularly.

Pruning

Pruning is a science beyond the scope of this book. A few comments may help to inform criticism and make supervision more effective, but for those who actually maintain trees, study and a long training on the job are indispensable. Town trees will respond over the years to skill and clear thinking but can be desecrated in half an hour by well-meaning ignorance. Figs. 89, 90 and 91 show three typical examples of ill-treatment.

FIG. 90. *Mop-headed street planes. Contrast the careful treatment of the planes in Birdcage Walk* (*fig.* 102).

FIG. 89. *Drastic mutilation.*

FIG. 91. *Badly treated limes that could still be rescued by careful pruning.*

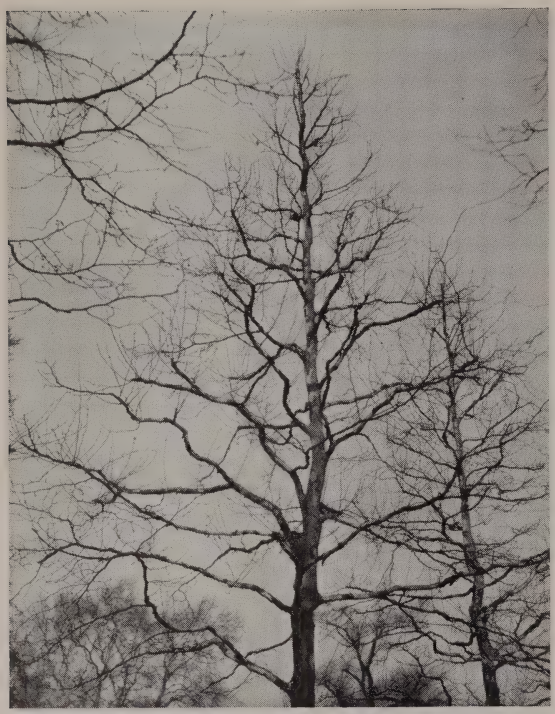

FIG. 92. *Westminster, The Mall. Good pruning of a plane tree for a formal shape.*

The ideal is no pruning at all. Where a tree can be given the space it should be allowed to grow naturally. But sometimes it becomes necessary to control the shape of trees to make them contribute effectively to the urban scene of which they are part, or to prevent defective growth such as the formation of double leading shoots (fig. 92), or to improve a tree that has been badly treated (figs. 93 and 94). For most species infrequent light pruning is all that will be needed, but the growth of some is more difficult to control. The plane, for example, needs more pruning than the *ailanthus* (Tree of Heaven). This is one of the factors affecting maintenance cost to be considered before any particular species is planted.

In order that wounds may heal quickly, any necessary removal of branches should if possible be done while the tree is young, but if a large branch has to be removed the cut will eventually heal over provided that it is flush at the point of junction with another branch or with the trunk and is dressed with a bituminous preparation to prevent infection. A layer of young growing cells, nourished by the sap between the wood and the bark, will gradually extend across it. Skilful tree surgery was

FIG. 93. *A badly treated plane tree, as it is.*

FIG. 94. *As it might be, pruned to improve its shape.*

applied to the tree in fig. 96; one main branch was successfully removed before the office building was completed (fig. 97).

If snags are left they may either die back and cause decay or start to sprout profusely. 'Bleeding' may be serious if the cut is made when the sap is rising. It is safest to confine pruning of most deciduous trees—there are exceptions—to the latter half of the year (June to December).

Once a tree has become dangerous through age there is no easy or cheap remedy. Removal of branches and bracing with steel cable to reduce the weight and the sway of long branches may succeed —it has been applied to the tree in fig. 7, page 4— but the normal course, particularly if there is any unsoundness, is to fell and replant. If, as is rarely the case, mere size is a source of danger, careless lopping is no remedy. It may cause decay even in previously healthy trees.

One of the objectives of pruning is to prevent obscuring of light. Lopping or pollarding will cause small branches and foliage to grow denser than ever and blot out more of the light than before (fig. 95). On the other hand a tree can often be thinned or made to grow up past windows

FIG. 95. *Lopping produces a greater density of foliage.*

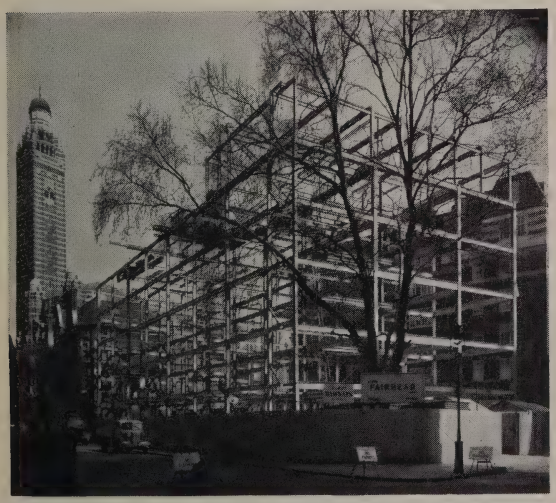

FIG. 96. *Westminster, Ashley Place. A fine plane tree near an office block under construction.* *Stewart Bale Ltd.*

FIG. 97. (*Right*) *After completion of the building. A main branch of the tree has been removed.*

previously obscured (fig. 98). Again, trees may need to branch high to clear traffic (fig. 99), to mask some feature above ground level such as a railway viaduct, or to allow people in the street or on footpaths to get a view of buildings or open spaces (fig. 21, page 7). Pruning for upward growth involves thinning of the heads and removal of the lower branches.

Pruning small trees

The small tree, which will not be chosen for planting where upward growth is needed, is best allowed to spread out into its natural form (fig. 100). Any pruning will normally aim to encourage its specific habit of growth and to produce abundant healthy wood.

Some varieties of flowering trees, particularly plums, cherries and others of the *prunus* group, are subject to " gumming ". Healthy young trees in rich soil may be shaped by pruning immediately after flowering. Any pruning in other conditions may be fatal.

FIG. 98. *Huntingfield Road, Roehampton. A grey poplar, only 12 ft. from the houses, pruned for upward growth.*

Pruning conifers

Dead and decaying branches of a conifer should be removed for the sake of appearance, but, unlike those of a deciduous tree, they rarely die back and injure the trunk. On the other hand the leading shoot needs special care. Injury to it endangers the form of the tree. Only occasionally is it possible to train a healthy side shoot to take the place of the leader.

Felling and planting

Trees, like all cultivated plants, have sooner or later to be taken out and replaced by others. But how are planting and felling to be co-ordinated? In squares and open places it is not difficult. Drastic changes in the scene can be avoided by planting and felling one or two at a time, so that the stock of young and maturing trees is maintained.

The renewal of a free design of roadside trees is rather more difficult, since each tree or group will be conspicuous, and particularly valuable to certain people, but the general character of the scene can be maintained by gradual planting and felling.

The formal avenue presents a serious problem since its beauty depends on uniformity in the size of the trees. These were planted together and may now be past their prime. Should they be felled together or gradually replaced? The decision is difficult either way. Wholesale felling of avenues (as in the Broad Walk, Kensington Gardens, and the Long Walk, Windsor Great Park) will practically wipe them out for 10 to 20 years, depending on the species replanted. Gradual felling and replanting,

FIG. 99. *Westminster, John Islip Street. Plane trees pruned high to clear traffic.*

FIG. 100.
Earswick, Yorkshire. Thorns growing freely in a quiet residential close.

by making them irregular, diminishes their beauty indefinitely. In some avenues half the trees may be replaced at a time; in others new lines can be planted inside or outside the old.

Protests against felling are not always well informed. Sometimes they have to be disregarded, but they should never be met halfway by lopping back. Ageing trees may be felled or preserved, but not mutilated.

Thinning out

The thinning out of a mixed plantation is normal arboricultural practice. As the trees grow they take up more space and the total effect is not diminished much or for long by selective felling.

The same is true of a group of a single species, but more care is needed, for as each tree takes its share of the light the group imitates the form of the single specimen (fig. 15, page 6). Thoughtless felling in the group resembles mutilation of the tree. The succession of a group may often be done best by planting another group separately rather than by selective felling and replanting on the same spot.

If trees in an avenue are planted close together to protect each other and to draw each other up they will eventually need more room. Every alternate tree may then have to be taken out. This has been done in the row of trees nearest the road in Birdcage Walk, London (figs. 101 and 102).

FIG. 101. *Westminster, Birdcage Walk. Two rows of plane trees.*

FIG. 102. *The same after removal of alternate trees in the nearer row.* (*See also figs.* 103 *and* 104).

FIG. 103. *After careful preparation a tree is taken out from Birdcage Walk for moving to a new position.*

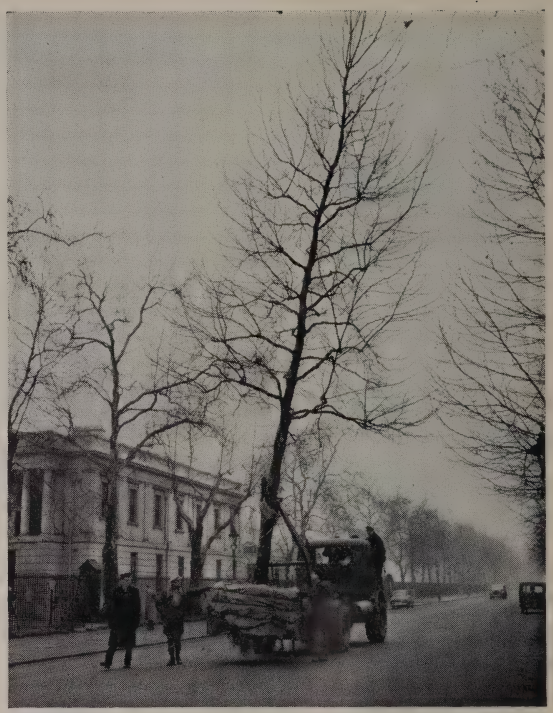

FIG. 104. *The tree shown in fig.* 103 *in process of being transported.*

Transplanting Large Trees

If trees over 20 ft. high have to be transplanted, they need to be prepared well in advance. Twelve months or two years before the removal, the roots should be cut back to encourage the growth of a new vigorous system of fine roots close enough to the bole to be moved intact in their surrounding soil. Success will depend on thorough preparation of the soil in the replanting position, removal in suitable weather, and good growing seasons in following years (figs. 103 and 104). To wrap the trunk in straw and hessian will help the tree to conserve its sap in a dry period. Guys should be fixed and maintained for several years to support the tree against the wind and prevent loosening of roots while they are spreading out and taking hold.

Such transplantation and subsequent maintenance are costly by comparison with ordinary planting, the risks of failure are high (higher with some species than others—conifers generally fare worse than deciduous trees) and growth is initially much slower. Nevertheless the results have often justified the operation.

In some other European countries where it is common to move large trees, climatic conditions are more favourable than in Britain.

Preservation of old trees

Trees may be gnarled and hollow yet survive (fig. 105). The condition of the roots and the quantity of sound wood and bark connecting the roots to the foliage are the critical factors. If old trees are valuable components of a particular scene, or of historic interest, their lives can be prolonged by expert attention. The main points in the treatment are to remove all dead branches, clean out dead wood from cavities, and to coat bare surfaces and fill holes with a suitable dressing (Bibliography, items 5 and 9).

Vandalism

It is when trees are first planted that they are liable to damage. Once established and visibly developing they are usually left unharmed. The difficulty is to get them through the first vulnerable years.

The importance of young trees can be emphasised by meticulous care of those in public greens and verges. If trees seem to be neglected by those who planted them, they are not likely to be respected by others.

Some authorities, by public planting ceremonies (fig. 106), labelling of trees and schemes of

FIG. 105. *Greenwich, Sayes Court. Moved twice during its life this old mulberry tree is still successfully preserved.*

FIG. 106. *Keynsham, near Bristol. A tree planting ceremony.*

" adoption ", have enlisted children to help them. But children's interest flags if not kept alive by regular activity. In Harlow, where one-third of the population is under 15 years old, a booklet drawn up by Harlow children and published by the Corporation in the form of a " Country Code " has been issued through the schools, and efforts are being made to establish a children's nature centre in one of the woodland valleys in the town. Elsewhere, local amenity societies co-operate with education authorities, churches, and scout and guide troops to organise an annual tree-planting week in which planting is done in the grounds of schools and public buildings.

Ceremonials and regular activities keep interest alive. Where vandalism persists, it can eventually be overcome by planting and replanting as many times as is necessary.

One way to combat vandalism and give point to ceremonial planting is to make trees mark events (fig. 19, page 7), or commemorate persons well known in the history of the local community (fig. 107), or link communities with each other. From the weeping willow under which Napoleon was buried in St. Helena are derived the willow at Cheltenham, see on the left of fig. 1, and also those that line the river in Canberra.

As the years pass and the pattern of planting develops a tradition will be established, or rather re-established. The beauty and usefulness of trees may then be valued again as highly as they were two hundred years ago.

FIG. 107. *Long-lived sequoias, planted in* 1869, *by John Walter of Bear Wood, near Wellington College, are still growing and will continue to do so for centuries.*

CHAPTER IV

Tree Lists and Tables

List of Trees in Alphabetical Order according to Common Names

Alphabetical List of Latin Names

Summary of Principal Characteristics of Trees

Large

Ref. No.	Common Name	Latin Name	Climatic Conditions
1	Acacia; False Acacia or Locust	*Robinia pseudoacacia*	Smoke resistant; hardy. Prefers milder areas and a sunny position.
2	Acacia; False Acacia or Locust	*R. p.* forma *bessoniana*	Ditto
3	Ash	*Fraxinus excelsior*	Withstands smoke and exposed positions. Very hardy.
	*Ash		
4	Beech	*Fagus sylvatica*	Hardy and wind firm. It will not stand a smoky atmosphere.
5	Beech; Copper Beech	*F. s.* var. *cuprea*	Ditto
6	Beech; Fern-leaved Beech	*F. s.* var. *heterophylla*	Ditto
7	Beech; Purple Beech	*F. s. atropunicea* (syn. *F. s.* var. *purpurea*)	Ditto

* For other Ash trees see page 58 (Medium) and pages 68 and 70 (Small) for Mountain Ash.

Trees

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Fast	Deciduous	Its graceful open habit of growth and feathery bright green foliage makes this an excellent town tree.	Light soils of neutral or slightly acid reaction are best. Shallow rooting. Trees up to 10 ft. or 12 ft. high transplant well. The growth is fast in the early stages, producing rather brittle wood. No regular pruning is required.
Moderate	Deciduous	A more compact habit of growth. Makes a good street tree.	Ditto
Fast	Deciduous	A most graceful tree whose open habit and light pinnate foliage make it a useful substitute for the *Robinia* in cold areas.	Tolerant of most soils. Has an extensive root system. Prefers an open position, and is extremely hardy and wind firm. Trees up to 15 ft. transplant well.
Slow until established, then fairly fast under good conditions, but easily retarded in exposed positions	Deciduous	The Beech is one of the most beautiful large forest trees with its smooth grey stems, graceful habit, delicate green leaves in spring and glorious autumn foliage. As a single tree it has a rounded spreading habit with a dense crown and countless ascending or horizontal branches ending in fine zigzag twigs. When grown as a woodland tree it develops a tall slender form.	The Beech needs a well drained soil. It grows naturally on chalk, limestone, or gravel soils, and is an excellent tree for group planting. Large trees do not transplant well. It is best planted under 7 ft. high. Young trees grow well under shady conditions. The Beech will make a good shelter belt if planted with other trees to provide it with shelter in the early stages.
Ditto	Deciduous	Similar to the Common Beech except that the foliage is coppery bronze. When the leaves first appear in May they are a lovely rosy-red colour.	Ditto
Not quite so vigorous as the Common Beech	Deciduous	A very handsome variety of Beech which makes a fine shapely tree. Its delicate leaves assume various shapes, sometimes long and narrow and sometimes deeply lobed. It may possibly be difficult to obtain.	There are several forms of this variety.
As for Common Beech	Deciduous	Similar to the Common Beech except that the foliage is a beautiful dark purple.	As for Common Beech.

Ref. No.	Common Name	Latin Name	Climatic Conditions
8	Cedar of Lebanon	*Cedrus libani*	Grows best in the warmer parts of the country. Prefers a sunny position; will not stand a polluted atmosphere.
9	Cedar; Blue Cedar	*Cedrus atlantica glauca*	Ditto
10	Cypress; Lawson's Cypress	*Chamaecyparis lawsoniana* (syn. *Cupressus*)	Very hardy; prefers a moist climate.
11	Cypress; Monterey Cypress	*Cupressus macrocarpa*	Specially suited for seaside planting. Unsuitable for cold districts.
12	Cypress; Nootka Cypress	*Chamaecyparis nootkatensis*	Very hardy
	*Cypress		
13	Elm; Guernsey or Jersey Elm	*Ulmus carpinifolia* forma *sarniensis* (syn. *U. stricta* var. *wheatleyi*)	Hardy; it withstands town conditions well.
14	Elm; Wych or Scots Elm	*Ullmus glabra*	Very hardy against both frost and wind. It also withstands smoke conditions well.
	†Elm		
15	Hemlock Fir	*Tsuga canadensis*	Hardy, but thrives best in the moister parts of the country; will not stand smoky conditions.
16	Hornbeam	*Carpinus betulus*	Hardy, and withstands wind; it will grow in shady conditions.

* For other Cypress trees see page 60 (Medium). † For other Elms see page 60 (Medium) and page 66 (Small).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Slow	Evergreen	Makes a magnificent specimen tree with its wide spreading horizontal branches and dark bluish-green needles. It needs plenty of space to develop and is perhaps best seen on a lawn. Young trees have an upright pyramidal habit, but are not in plentiful supply.	Cedars will grow on a wide range of soils but are at their best on deep neutral valley loams. Small trees up to 3 ft. high transplant best. Planting should be carried out in early autumn or late spring.
Slow	Evergreen	This Cedar has bluish-grey needles. It has an upright, somewhat pyramidal, habit of growth and is also pyramidal in general outline when young.	Ditto; but transplants well up to 6 ft. or 8 ft. in height.
Medium fast	Evergreen	Pyramidal tree, with deep to glaucous green foliage.	Thrives on most soils but prefers a good deep loam and a moist climate.
Fast	Evergreen	Pyramidal in habit when young, but spreads to a large flat-topped tree.	Should be transplanted from pots; but is rapid growing when well established.
Fast	Evergreen	Slender pyramidal tree when young and broadens with age. Dark green foliage. Not as tall as Lawson's Cypress.	Thrives in most soils.
Moderate vigour	Deciduous	A tree of slender tapering or columnar form, its branches grow stiffly erect around the central trunk. Owing to this habit it is recommended as a street tree where space for lateral growth is limited.	This tree is widely tolerant of soil conditions although it does not thrive so well on light acid soils. Trees up to 10 ft. high transplant easily.
Fairly vigorous	Deciduous	A large tree with, in the open, wide spreading branches. This tree has a very short thick trunk and a more rounded shape and denser foliage than most of the Elms. In the early spring when the flowers appear the whole tree is tinged with red, and soon after, before the leaves expand, the fruit turns the tree to a pale greenish-yellow.	Ditto
Fairly fast	Evergreen	A very beautiful coniferous tree, tall and often with a rounded head. Its fine bluish-green foliage and delicate pendulous branches give it a most graceful appearance. It occasionally branches into several stems near the ground to form a rounded head of branches. The young trees are also very ornamental and might be used as temporary fillers.	The Hemlock Fir thrives best in a deep moist loam; it will not grow on a shallow chalky soil. Young trees are best transplanted under three feet high in early autumn or April.
Fast when young but slows later	Deciduous	This is a pleasant medium sized forest tree with a rounded head. From its grey bark, twigs and foliage it may be mistaken for the Beech. The trunk is, however, often fluted and the margins of the leaves are more toothed than those of the Beech.	The Hornbeam is tolerant of a wide range of soils. Trees up to 10 ft. or 12 ft. high may be transplanted. This is one of the best trees for hedges and pleaching; when clipped it retains its dead brown leaves throughout winter.

Ref. No.	Common Name	Latin Name	Climatic Conditions
17	Hornbeam (Upright variety)	*Carpinus betulus* var. *fastigiata* (syn. *C. b.* var. *pyramidalis*)	Hardy, and withstands wind; it will grow in shady conditions.
18	Horse-Chestnut	*Aesculus* × *carnea* var. *plantierensis*	Hardy; good under town conditions.
19	Horse-Chestnut; Indian	*Aesculus indica*	Hardy; stands town conditions well. Young trees are liable to damage by late spring frost.
	*Horse-Chestnut		
20	Incense Cedar	*Libocedrus decurrens*	Hardy; not suitable for smoky conditions.
21	Indian Bean Tree	*Catalpa bignonioides*	Hardy; prefers sun and warmth. Tolerates smoke conditions well.
22	Larch; Japanese Larch	*Larix leptolepis*	Hardy, thrives best in high rainfall districts. Stands smoke only reasonably well.
23	Lime	*Tilia* × *euchlora*	Hardy, withstands smoke conditions well.
24	Lime; Pendent Silver Lime	*Tilia petiolaris*	Hardy, withstands smoke conditions fairly well.
25	Lime; Red twigged	*Tilia platyphyllos* var. *rubra* (syn. *T. p.* var. *corallina*)	Ditto

* For another Horse-Chestnut see page 60 (Medium).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Slow	Deciduous	A very good medium to large pyramidal tree; its leaves turning to gold in autumn. Useful for a formal effect. Grows with erect branches, and is suitable for planting in streets and other places where space is restricted.	Tolerant of a wide range of soils. Specimens up to 10 ft. or 12 ft. high may be transplanted.
Moderate	Deciduous	This variety has pink flowers which do not produce seeds. It does not, however, form so large a tree as the Common Horse-Chestnut.	Prefers a deep loam soil. Fairly large trees up to about 12 ft. high can be transplanted. In autumn the large leaves may be a cause of nuisance if they are allowed to overhang roads or gutters.
Fairly vigorous	Deciduous	A fine tree with a rounded head and shining dark green leaves, coppery when young. The white flowers blotched with yellow and red are borne in late June.	Ditto
Rather slow	Evergreen	One of the most distinctive conifers with its tall columnar form and rich evergreen foliage. Very suitable for planting in a group.	Prefers a deep moist loam.
Rather slow, grows in breadth rather than height	Deciduous	A fine spreading tree, its large leaves remain fresh green throughout the summer; it bears large white flowers in July and August followed by long hanging bean pods. There is a good golden variety of this tree.	A deep moist loam is preferred. Plenty of space must be allowed for this spreading tree to grow. The large leaves may become a nuisance in autumn if it is planted too close to roads and paths. Young trees may be planted up to 7 ft. to 8 ft. high.
Very rapid	Deciduous	This graceful deciduous conifer is usually planted as a timber tree but might be used far more often for its ornamental qualities. In spring and autumn its foliage is particularly attractive.	Except in very dry and ill-drained sites the Larch is tolerant of most soils. Young trees under 3 ft. to 4 ft. in height are best for transplanting, and as they are cheap and will grow quickly they might be used more often as temporary fillers, or for group planting.
Fairly fast	Deciduous	A moderate sized tree of graceful rather pendulous growth. It has large bright green leaves.	This Lime is particularly useful for town planting as it is free of insect pests. Fairly large trees 12 ft. to 15 ft. high transplant well.
Fairly fast	Deciduous	Large round topped tree with pendulous branches and a graceful habit. This is one of the most beautiful Limes. The undersides of the dark green leaves are white and felty.	All Limes grow best in deep moist soils but are fairly tolerant of soils generally. Their symmetrical habit of growth makes them good avenue trees.
Fairly fast	Deciduous	A large tree with a shapely rounded head of branches and red twigs. Has large downy leaves and shoots. This species should be preferred to the Common Lime (*Tilia vulgaris*) as it is more shapely and does not produce swollen burrs on its trunk.	Ditto

Ref. No.	Common Name	Latin Name	Climatic Conditions
26	Maple; Norway Maple	*Acer platanoides*	Hardy, wind-firm, and stands smoke reasonably well.
27	Maple; 'Goldsworth Purple' Norway Maple	*A. p.* var. 'Goldsworth Purple'	Ditto
28	Maple; Purple Norway Maple	*A. p.* var *schwedleri*	Ditto
29	Maple; Silver Maple	*Acer saccharinum* (syn. *A. dasycarpum*)	Hardy and fairly wind-firm. Requires an open sunny position but withstands smoke conditions well.
	*Maple		
30	Oak; Durmast Oak	*Quercus petraea* (syn. *Q. sessiliflora*)	Very hardy, stands exposed wind-swept conditions.
31	Oak; Holm Oak or Evergreen Oak	*Quercus ilex*	Good shelter tree near the sea.
32	Oak; Pin Oak	*Quercus palustris*	Hardy
33	Oak; Red Oak	*Quercus rubra* (Du Roi, not L.) (syn. *Q. borealis*)	Hardy; withstands smoke conditions well.
34	Oak; Scarlet Oak	*Quercus coccinea* var. *splendens*	Ditto
35	Oak; Turkey Oak	*Quercus cerris*	Hardy

* For Paperbark Maple see page 68 (Small).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Fairly fast	Deciduous	A handsome tree somewhat resembling the Sycamore. The leaves are thinner and brighter. It has attractive greenish-yellow flowers in early spring and fine golden-yellow autumn colouring.	This tree will thrive on a wide range of soils but is best on a well drained sandy loam. It is reproduced easily from seed and many named varieties have been produced.
Fairly fast	Deciduous	A variety whose foliage is copper coloured; a most beautiful specimen tree.	Ditto, except that it cannot be produced from seeds.
Fairly fast	Deciduous	The leaves are bright red when young in April and May; later in the season they turn greenish.	Ditto
Fast; this is the quickest growing of the American Maples	Deciduous	One of the most beautiful deciduous trees for open spaces in towns. Its habit is graceful with pendulous branches which sway in the wind showing the silver undersurface of the leaves; it also has fine autumn colour. This tree requires plenty of space to develop its full beauty.	A good moist loamy soil is required. Large specimens up to 10 ft. to12 ft. high transplant well.
Fairly slow but quicker than the Common Oak	Deciduous	Resembles the Common Oak in appearance but is rather more upright in habit. The head of branches is less rugged and open. It is found wild in the more exposed conditions of the north and west.	Normally grows on well drained soils somewhat acid in reaction. Is best transplanted when small.
Very slow until established, then moderate	Evergreen	One of the finest evergreen trees to grow in Britain. It has a spreading habit and rounded head of dense leafy branches; giving the tree a dark blackish-green colour. It is often seen on the sea front of southern watering places in the form of a dense, flat headed bush, stunted but quite healthy. Under woodland conditions it grows a tall slender trunk.	Tolerant of acidity; a warm light soil is preferred; it will grow on clay if drainage is provided. Does not transplant easily; young trees under 2 ft. high should be planted from pots. It can be used for avenue planting.
Fast, especially so when young	Deciduous	This tree has a dense head of slender pendulous branches. It has an elegant habit. The large leaves turn reddish-brown in autumn.	Unsuitable for alkaline soils. Trees 10 ft. to 12 ft. high may be planted.
Vigorous, particularly when young	Deciduous	A very handsome tree with large boldly cut foliage which, in autumn, turns to dull reddish or yellowish-brown. Differs from *Q. palustris* in having larger foliage.	Unsuitable for thin soils over chalk. Prefers good heavy loams, but will do well on poorer sandy soils.
Fairly vigorous	Deciduous	Not so wide spreading as *Q. rubra*. Good as an avenue tree. Retains its leaves till November or December, for the last period being of a bright purplish-red. The leaves differ from *Q. rubra* in being smaller and lustrous beneath.	Ditto
Fast	Deciduous	A very large deciduous tree with a spreading habit bigger than the English Oak. The dark lustrous foliage is not dense.	Strong deep loam is preferred; tolerant of a wide range of soil types. A good tree for clay soils.

Ref. No.	Common Name	Latin Name	Climatic Conditions
36	Pine; Austrian Pine	*Pinus nigra* var. *austriaca*	Very hardy, withstands winds, especially near the sea.
37	Pine; Maritime or Cluster Pine	*Pinus pinaster*	Good for seaside planting in the milder areas.
38	Pine; Monterey Pine	*Pinus radiata* (syn. *P. insignis*)	Not frost hardy, but thrives in exposed positions near the sea coast in the south and west.
39	Pine; Scots Pine	*Pinus sylvestris*	Very hardy and windfirm; will not stand smoky conditions.
	*Pine		
40	Plane; London Plane	*Platanus* × *acerifolia*	Hardy; thrives under London's smoke conditions.
41	Poplar	*Populus* × *robusta*	Hardy, a good poplar for windy sites.
42	Poplar	*Populus* × *canadensis eugenei*	Hardy, stands town conditions well.
43	Poplar; Golden Poplar	*Populus* × *c.* forma *aurea* (syn. *P. c.* 'Van Geertii')	Hardy, stands town and seaside conditions well.

* For other Pines see page 62 (Medium), and page 70 (Small).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Rather slow	Evergreen	An excellent shelter tree, and also useful for fixing drifting sands. It has a stocky trunk and spreading branches bearing dense heavy masses of dark needles.	Particularly suited to poor chalky soil and to sites near the sea. Is best planted when small.
Very fast, particularly when young	Evergreen	Old trees are very picturesque with their tall, rugged, deeply fissured trunks and large dark green needles. The young trees have rather an ungainly appearance.	Grows best on light sandy soils and is good for planting in the milder sand dune areas. Is well known near Bournemouth.
Fast	Evergreen	Makes a fine specimen tree; is densely branched with dark green leaves.	Difficult to transplant; it should therefore be planted not more than 2 ft. high from pots, and securely staked after planting.
Moderate	Evergreen	The only native British Pine, well known for its picturesque habit when mature, and its tall trunk, rugged red bark and asymmetrical branches with dark green needles. A good shelter tree in exposed places. Well known as a timber tree.	Grows on any well-drained soils, but not on clay. Small trees under 2 ft. are best for planting.
Fairly fast, particularly when young	Deciduous	A very fine tree, which when encouraged to grow naturally has an elegant open habit, a rounded head and pendulous ends to the branches. It has an erect trunk, from which the bark peels in the autumn leaving it a pale greenish-yellow colour. The smooth leaves withstand smoke conditions and remain fresh green well through the summer. *Platanus orientalis* is another good town tree; having a more spreading and dense habit it is not suitable for streets, but might be planted where space is available to grow into a fine specimen tree.	Grows well on most light soils, but has a preference for deep well-drained soils. Transplants when quite large at 12 ft. to 14 ft. Young trees need careful pruning to establish a clean stem. Planes should not be used for continuous planting in narrow streets, but specimens could be planted on suitable sites in such streets where there is sufficient clearance for them to develop naturally and without being subjected to mop-headed pruning.
Very fast	Deciduous	Tends to have a pyramidal and pleasing habit. One of the best Poplars for general planting, particularly attractive in spring.	Most varieties of Poplar are unsuitable for planting close to buildings or in streets, as their root system is spreading and vigorous. This danger is most marked in clay soils, where the roots absorb the moisture and cause cracking and shrinkage. In streets and footpaths the roots will penetrate and damage surface materials and mains.
Very fast	Deciduous	A very large tree of somewhat columnar habit; has a large straight strong trunk and short, but comparatively weak, spreading side branches. In spring it has coppery coloured young leaves.	It prefers moist loam soils. Trees can be planted up to 12 ft. or 14 ft. high, and also as rooted cuttings when they make extremely rapid growth.
Vigorous on good ground, rather slow elsewhere	Deciduous	A form with bright yellow leaves in spring and early summer, becoming yellowish-green later. Useful for colour grouping.	Prefers a damp medium loam, though it will grow on a light sandy gravelly soil.

Ref. No.	Common Name	Latin Name	Climatic Conditions
44	Poplar; Lombardy Poplar	*Populus nigra* var. *italica* (syn. *P. n. pyramidalis*)	Hardy
45	Poplar; Manchester or Downy Black Poplar	*P. n.* var. *betulifolia*	Hardy; succeeds well in industrial areas.
	*Poplar		
46	Sweet Gum	*Liquidambar styraciflua*	Hardy
47	Tree of Heaven	*Ailanthus altissima* (syn. *A. glandulosa*)	Smoke resistant; hardy.
48	Tulip Tree	*Liriodendron tulipifera*	Hardy, preferring sunny positions; smoke tolerant. Young trees liable to be damaged by late spring frost.
49	Wellingtonia, or Big Tree	*Sequoia gigantea*	Thrives in most districts.

* For White Poplar and Bolle's Poplar see page 62 (Medium).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Vigorous	Deciduous	A well known fastigiate tree. It can be used to form a valuable upright feature and also a fine avenue. It should be planted with discretion when used as a screen to industrial buildings. Has been wrongly placed close to gasholders for instance, where a ring of such trees tends to attract rather than distract the attention.	The roots are liable to cause injury to the foundations of nearby buildings, particularly if planted in clay soils, as mentioned in the cultural notes to no. 41.
Fast	Deciduous	A British tree. Differs from the Black Poplar in that the young shoots, leaf stalks and midrib are downy.	Will thrive on a wide variety of soils. Trees 10 ft. to 12 ft. high will transplant readily.
Slow growth in young state	Deciduous	Pyramidal when young, broadening later. Foliage turns crimson and orange in autumn.	Prefers good loamy and moderately moist soil; may be pruned when grown in a confined space.
Fast	Deciduous	A fine town tree; its bold pinnate foliage throws a dappled shade.	A tree which prefers a sunny position. Trees up to 10 ft. to 12 ft. transplant well; growth is sometimes slow in the early stages, though fast when once established.
Vigorous	Deciduous	A handsome tall specimen or avenue tree. Its leaves, which are square ended, withstand town conditions well, remaining fresh green throughout the summer and turning a glorious golden colour in autumn. When carrying greenish-white flowers with an orange band in July, it is a remarkable sight.	Young trees about 5 ft. to 7 ft. high transplant best in early spring. Thrives in most soils, but prefers a deep rich loam.
Fast	Evergreen	This, the Big Tree of California, is the tallest growing conifer and has a very distinct character. With its stout trunk and pendulous branches it makes a very marked addition to the skyline wherever it has been planted. It may be used as a specimen tree, or possibly in avenues where it produces a very solemn effect, as shown in the example photographed at Finchampstead near Wellington College (fig. 107).	Thrives on most soil. Small plants transplant best.

Medium

Ref. No.	Common Name	Latin Name	Climatic Conditions
50	Alder; Common Alder	*Alnus glutinosa*	Hardy; smoke resistant.
51	Alder; Grey Alder	*Alnus incana*	Very hardy; withstands smoke conditions.
52	Ash; Manna Ash	*Fraxinus ornus*	Hardy
53	Ash; One-leaved Ash *Ash	*Fraxinus excelsior* var. *diversifolia* (syn. *F. e. monophylla*)	Very hardy; withstands smoke conditions.
54	Birch; Silver Birch	*Betula pendula* (syn. *B. verrucosa*)	Very hardy; withstands smoke conditions.
55	Birch; Swedish Birch	*B. p.* var. *dalecarlica*	Ditto
56	Cherry; Bird Cherry	*Prunus padus*	Very hardy
57	Cherry; Bird Cherry	*P. p.* var. *watereri*	Ditto
58	Cherry or Gean; Double flowering	*Prunus avium plena*	Hardy
59	Cherry or Gean; Native Cherry	*Prunus avium*	Hardy in most positions.
60	Cherry; Sargent's Cherry	*Prunus sargentii*	Hardy

* For other Ash trees see page 46 (Large) and Mountain Ash pages 68 and 70 (Small).

Trees

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Fast in early stages	Deciduous	This tree has two forms of growth, either as a bush with several stems growing from one root, or having a narrow pyramidal habit. It has a certain beauty with slender horizontal branches and dark rounded foliage, and in spring rusty catkins before the leaves appear.	This shallow rooting tree grows in any moist soil except highly acid peat. Trees up to 12 ft. high may be transplanted but smaller ones move more easily. If coppiced, a bush form is assumed by the secondary growths. It has been planted with some success on slag heaps. There are numerous garden varieties of this tree, some are coloured forms, others have cut leaves.
Fast	Deciduous	A small, often scrubby tree with silver-grey bark. The undersides of the leaves are grey. Catkins 2 in. to 4 in. long in February.	As for Common Alder.
Moderate	Deciduous	A tree with a dense rounded head of branches and spreading habit. It makes a fine picture in May with its abundant panicles of whitish flowers.	The same as for Common Ash, but will do well on lighter soils.
Fairly fast	Deciduous	In this variety of Ash the terminal leaflet only, or occasionally one or two more, are developed. In other ways this Ash is similar to the Common Ash.	Makes an excellent town and street tree. It does well in heavy and in medium soils.
Fast	Deciduous	This graceful tree with its silver stems and light foliage is one of the most useful trees for planting in association with buildings.	Has shallow roots and prefers a well-drained acid soil. Large specimens do not transplant readily, but small trees are very quick growing.
Fast	Deciduous	This tree has a graceful semi-weeping habit, with cut leaves.	The same as above.
Fast when young	Deciduous	Open, rather gaunt habit when young. The white fragrant flowers are borne on drooping racemes 3 in. to 6 in. long in May. Very charming for informal planting.	Not particular as to soil. Can be planted as a bush as well as a standard tree. Especially good in the north.
Fast when young	Deciduous	The best of the single flowered varieties.	Ditto
Medium fast	Deciduous	Not as tall as the native Cherry. Invariably gives a heavy crop of double white blossom.	Thrives on most soils; prefers deep well drained soils with some lime; resents pruning.
Medium fast	Deciduous	Upwards of 50 ft. high in good conditions; mass of white blossom; rich autumn foliage.	Ditto
Medium fast	Deciduous	Rose-pink blossom in profusion in March and April. Has splendid autumn colouring.	Ditto

Ref. No.	Common Name	Latin Name	Climatic Conditions
61	Cherry; Flowering. Yoshino Cherry	*Prunus yedoensis*	Hardy
	*Cherry		
62	Cypress	*Chamaecyparis lawsoniana* var. *allumi*	Very hardy; moist climate.
63	Cypress	*C. l.* var. *lutea*	Ditto
	†Cypress		
64	Elm	*Ulmus procera* var. *viminalis*	Hardy; suitable for the seaside, and is smoke tolerant.
	‡Elm		
65	Holly	*Ilex aquifolium*	Hardy; withstands wind, coastal and smoky conditions.
	øHolly		
66	Honey Locust	*Gleditschia triacanthos*	Suitable only for warmer parts of the country, tender in the early stages. Withstands smoke well; good in London.
67	Horse-Chestnut; Red	*Aesculus* × *carnea* 'Briotii' (syn. *A. c. rubicunda*)	Hardy; good under town conditions.
	§Horse-Chestnut		
68	Japanese Pagoda Tree	*Sophora japonica*	Hardy in south and milder areas; withstands town conditions well.
69	Maidenhair Tree	*Ginkgo biloba*	Very hardy, in sunny positions.

* For other Cherries see page 66 (Small).
† For other Cypress trees see page 48 (Large).
‡ For other Elms see page 48 (Large) and page 66 (Small).
ø For other Hollies see page 68 (Small).
§ For other Horse-Chestnuts see page 50 (Large).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Moderate	Deciduous	A tree of rounded spreading habit, its semi-arching branches spread upwards and outwards. The dainty white flowers, pink in bud, are borne in great profusion in late March and early April; one of the earliest flowering Cherries.	Not particular as to soil, but with a preference for light well-drained loam. Can be planted as a bush as well as a standard tree.
Medium fast	Evergreen	Spire-like in habit, with glaucous blue foliage.	Thrives on most soils but prefers a good deep loam and a moist climate.
Medium fast	Evergreen	Spire-like pyramidal habit, with golden-yellow foliage.	Ditto
Slow	Deciduous	A slender tree of shapely graceful habit. It has slightly pendulous branches and small tapering leaves. Becomes defoliated in a dry season.	Prefers a good medium loam on the heavy side, and a soil retentive of moisture. Can be used for avenue planting.
Slow	Evergreen	One of Britain's few native evergreens. It forms a conical shaped tree in the open, or under shade grows into a spreading shaped shrub. It is an excellent tree for providing shelter owing to its habit of retaining dense foliage near the ground. It is not generally known that a Holly tree may bear male, female or hermaphrodite flowers and consequently berries may not be borne if a single tree is planted.	Transplanting is best in early autumn or late spring; young plants 2 ft. or 3 ft. high are preferred. Grows on a wide variety of soils, but dislikes extremes of moisture and drought. Typically a woodland tree and grows well in the shade. The Common Holly has a great many varieties.
Rather slow	Deciduous	Graceful upright and open habit, delicate pale green fern-like foliage turning bright gold in autumn. It throws a very light shade and is recommended for open spaces or near buildings. Bears white flowers with a yellow blotch. These are fragrant and attract bees.	Prefers light rich loam or alluvial silt of neutral or acid reaction. Young trees under 3 ft. are best for transplanting. The trunk bears sharp spines which may be dangerous if not pruned off as soon as they develop. Will do quite well in shade.
Fairly vigorous but less so than the Common Horse-Chestnut	Deciduous	This tree has a rounded form and dense habit, with its large leaves it casts a deep shade. The red flowers in May are most attractive, are larger and more deeply coloured than the normal type and do not produce conkers.	Prefers a deep loam soil. Fairly large trees up to about 12 ft. high can be transplanted. In autumn the large leaves of this tree may be a cause of nuisance if they are allowed to overhang roads or gutters.
Moderate	Deciduous	One of the most beautiful leguminous trees. It has a graceful habit of growth and a rounded head. When grown in the open it branches low down but has a tall clear trunk when close planted. The leaves are a rich green colour and the flowers creamy white, borne in terminal panicles in September.	Prefers a well drained light-medium loam, and should not be planted in exposed conditions. It does well in the London area. Needs room. The wood is rather brittle.
Slow starting, but rate increases with age	Deciduous	Distinctive tree, somewhat pyramidal in habit; of great botanical interest. The fan shaped yellowish-green leaves turn to a rich yellow in autumn. Suitable as a long lived specimen tree.	Prefers a deep rich soil, but will thrive in a sunny position on most soils.

Ref. No.	Common Name	Latin Name	Climatic Conditions
70	Pine; Arolla Pine	*Pinus cembra*	Hardy; will not stand smoky conditions.
71	Pine; Stone Pine *Pine	*Pinus pinea*	Hardy in the south and milder areas only. Young plants apt to be damaged by frost.
72	Poplar; White Poplar	*Populus alba*	Hardy; wind-firm; stands seaside conditions particularly well.
73	Poplar; White Poplar. Bolle's Poplar †Poplar	*Populus alba* var. *pyramidalis* (syn. *P. a. bolleana*)	Hardy; also good under seaside conditions.
74	Pride of India	*Koelreuteria paniculata*	Hardy; for sunny positions.
75	Spruce; Blue Spruce	*Picea pungens* var. *glauca*	Fairly hardy; best in moister parts of the country. Does not like smoke.
76	Spruce; Serbian Spruce	*Picea omorika*	Very hardy. Withstands town conditions better than most conifers.
77	Swamp Cypress	*Taxodium distichum*	Hardy; withstands town conditions well.
78	Varnish Tree (Sumach) ‡Sumach	*Rhus verniciflua*	Hardy in the south and milder areas.

* For other Pines see page 54 (Large) and 70 (Small). † For other Poplars see pages 54 and 56 (Large).
‡ For another Sumach see page 72 (Small).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Moderate	Evergreen	Of pyramidal form when young; a picturesque tree. Its densely branched shoots are thickly packed with needles in bundles of fives.	Does well on light sandy soil, provided there is moisture. Needs a clean atmosphere or will drop its needles.
Moderate	Evergreen	It has a fine scaly trunk and a typical broad spreading umbrella-like head of branches. A specimen tree.	Young trees transplant badly. They are best planted when quite small.
Moderate	Deciduous	This often makes a medium to small rounded tree, of an attractive grey colour. When the leaves, many of which are lobed, first expand they are covered with white felt; this falls away from the surface during the summer. The under surface remains white, giving the tree a most attractive appearance in the breeze.	Can be pruned to produce a shapely habit with a dense mass of grey foliage. Produces strong suckers and consequently is best not planted near buildings or in streets, but for other landscape effects. Will grow on most soils.
Moderate	Deciduous	A grey pyramidal tree resembling the Lombardy Poplar but not so vigorous in growth. In winter it is distinguished by its pale smooth trunk. It has the same attractive white undersurface to its leaves as *P. alba*.	As for *P. alba*. Not so prone to suckering.
Slow	Deciduous	Gaunt when young but more compact with age. Has bright yellow flowers in July and August followed by reddish bladder-like fruit and good yellow autumnal foliage.	Grows well in most soils but prefers a good loamy soil and a well drained sunny position.
Moderate	Evergreen	The Blue Spruce is a lovely glaucous silver-grey colour. Young trees are pyramidal in shape, with stiff horizontal branches. They are often more handsome than when mature, for then they tend to become thin at the base.	Best planted when quite young.
Fast when young. Slower as it becomes more established	Evergreen	Has the appearance of a most elegant tall slender "Christmas tree" with short drooping branches. It could be used as an interesting evergreen in association with buildings.	Prefers light soils. Best transplanted when under 3 ft. high.
Moderate	Deciduous	Eventually forms a tall pyramidal tree. Very tapering and buttressed trunk. Fine delicate striking green feathery foliage in spring, changing to rich brown in autumn.	Thrives in wet positions, is very accommodating as it will grow in alternate wet and dry conditions, and in most soils except chalk.
Moderate	Deciduous	This tree has a slender habit and pinnate leaves one to two ft. long. It can produce an interesting effect when seen in association with buildings. The sap yields the famous lacquer of Japan. A good specimen tree.	Prefers light medium loamy soils with moisture. Some people are allergic to the sap when pruning and may experience skin trouble.

Ref. No.	Common Name	Latin Name	Climatic Conditions
79	Willow; Cricket Bat Willow	*Salix alba* var. *calva* (syn. *S. coerulea*)	Hardy. Stands town conditions well.
80	Willow; Golden Willow	*S. a.* var. *vitellina*	Hardy
81	Willow; Silver Willow	*Salix alba sericea* (syn. *S. argentea* and *regalis*)	Fairly hardy
82	Willow; Weeping Willow	*S. a.* var. *tristis* (syn. *S. chrysocoma*)	Hardy
	*Willow		
83	Yew; English or Common Yew	*Taxus baccata*	Very hardy
	†Yew		

* For Violet Willow see page 74 (Small). † For Irish Yew see page 74 (Small).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Very rapid	Deciduous	A fine pyramidal and erect branching tree. Attractive with its light silvery foliage; can be used as a quick growing screen.	Prefers a stiff, moist, but not waterlogged soil. Grows rapidly from cuttings.
Rapid	Deciduous	A striking ornamental Willow in winter with its bright orange-yellow young shoots. The variety *britzensis* has bright red shoots.	Will thrive on most soils, but especially in well-drained moist positions. It will grow near the sea.
Rapid	Deciduous	A graceful tree, of a rounded semi-weeping habit; often seen pollarded. Has an intense silver-white foliage making it conspicuous from long distances. Not so robust as *S. a.* var. *vitellina.*	Will thrive on most soils, but especially in well-drained moist positions. It will grow near the sea.
Rapid	Deciduous	The most attractive Weeping Willow. The young branches are golden-yellow in winter. Also known under the names of *S. babylonica ramulis aureis* and *S. vitellina pendula.* A good specimen tree.	Prefers a moist situation. Requires plenty of room to grow.
Very slow	Evergreen	Dark green densely foliaged spreading tree. Makes a very satisfactory hedge plant.	Transplants readily to 5 ft. to 6 ft. high in all except highly acid soils; grows well on chalk. Best transplanted in autumn or spring.

Small

Ref. No.	Common Name	Latin Name	Climatic Conditions
84	Almond	*Prunus amygdalus* (syn. *P. communis*)	Hardy in the south. Withstands smoke conditions.
85	Cherry; Flowering	*Prunus* 'Pandora'	Hardy
86	Cherry; Flowering. Autumn Cherry	*Prunus subhirtella* var. *autumnalis*	Ditto
87	Cherry; Flowering. Fuji Cherry	*Prunus incisa*	Ditto
	*Cherry		
88	Cotoneaster	*Cotoneaster* 'Cornubia'	Hardy
89	Cotoneaster	*Cotoneaster frigida*	Hardy. A good plant for town conditions.
90	Crab; Flowering Crab	*Malus floribunda*	Hardy. Withstands smoke conditions.
91	Crab; Flowering Crab	*Malus* 'Lemoinei'	Moderately hardy
92	Crab; Flowering Crab	*Malus spectabilis*	Ditto
93	Crab; Flowering Crab	*Malus tschonoskii*	Ditto
94	Elm; Weeping Elm	*Ulmus glabra* var. *pendula*	Hardy
	†Elm		

* For Bird Cherries, Geans, and other *Prunus* varieties see pages 58 and 60 (Medium) and 70 and 72 (Small).
† For other Elms see page 48 (Large) and 60 (Medium).

Trees

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Fairly vigorous when young	Deciduous	A small tree, erect branching when young; of bushy habit when old. Open habit and light foliage. Profusion of pink flowers before the leaves in early spring.	The spring flowers show to advantage if this tree is planted against a dark background.
Moderate	Deciduous	A shapely specimen tree. It has clusters of dainty white flowers flushed with pink. It can be used for street planting.	Not particular as to soil, but prefers a light well drained loam. Can be planted as a bush as well as a standard tree.
Moderate	Deciduous	A small tree with spreading twiggy branches. It produces a succession of dainty white semi-double flowers throughout the winter.	Ditto
Slow	Deciduous	A small elegant tree, often a bush, with saw-edged leaves. Small hanging flesh-pink flowers borne in great profusion.	Ditto
Fast	Semi-evergreen	A small tree with rich green leaves 4 in. to 5 in. long; it bears an enormous crop of brilliant red fruits.	Will thrive in almost all soils. Should be planted in standard form.
Fast	Semi-evergreen	A small tree with white flowers, followed by clusters of red fruit in autumn and early winter.	Ditto
Moderate	Deciduous	A small tree with a spreading tangle of branches forming a rounded head broader than the tree is high. Produces a profusion of pink flowers in spring. Has no fruit.	Good on most soils.
Moderate	Deciduous	Has a bushy, rounded and spreading habit. Bright crimson flowers and coppery tinted foliage.	Ditto
Moderate	Deciduous	Forms a rounded head of branches often as wide as it is high. Flowers a deep rosy red in bud, opening to blush pink; semi-double.	Ditto
Moderate	Deciduous or Evergreen	Of open rather pyramidal habit. Flowers and fruit are not conspicuous. One of the best for producing very fine autumn-coloured foliage.	Good on most soils. Has been successfully used as a street tree.
Slow	Deciduous	A fine low-growing weeping tree. Useful for planting as a contrast to buildings.	Tolerant of most soils. Standards with a good height of stem should be chosen.

Ref. No.	Common Name	Latin Name	Climatic Conditions
95	Fig	*Ficus carica*	Hardy
96	Holly	*Ilex aquifolium* var. *pyramidalis*	Hardy; withstands coastal conditions.
97	Holly; Silver variegated Holly	*I. a.* var. *argentea marginata*	Hardy; withstands wind, coastal and smoke conditions.
	*Holly		
98	Judas Tree	*Cercis siliquastrum*	Sunny sheltered position required. Hardy in most districts.
99	Laburnum	*Laburnum* × *watereri* (syn. *L. alpinum* × *L. anagyroides*, or *L. vossii*)	Hardy. Withstands coastal and smoke conditions.
100	Magnolia	*Magnolia* × *soulangeana*	Hardy
101	Maple; Paperbark Maple	*Acer griseum*	Hardy
	†Maple		
102	Medlar	*Mespilus germanica*	Hardy. Stands smoke conditions well.
103	Mountain Ash (European) or Rowan	*Sorbus aucuparia*	Very hardy, will grow in the most exposed places.
104	Mountain Ash	*S. a.* var. *asplenifolia*	Hardy

* For Common Holly see page 60 (Medium). † For other Maples see page 52 (Large).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Moderate	Deciduous	The Fig will grow into a tree with a short rugged trunk and a low spreading head of branches. The twisting habit of the trunk and the large leaves present an interesting effect, particularly against buildings.	Particularly suitable for planting in a sheltered place.
Rather slow	Evergreen	A green-leaved compact growing form of the Common Holly, the leaves having few spines. Self-fertile, isolated specimens produce berries.	Avoid transplanting in December, January and February if possible.
Slow	Evergreen	Silver-leaved variety. Leaves have a dark green centre and silver margins. There are a number of different variegated Hollies, both silver and gold.	All variegated Hollies have a tendency to revert to the green Holly. This should be checked by cutting out at once branches showing reversion.
Slow until established	Deciduous	A small tree of pleasing habit which looks well against a dark background. In May the bare stems are covered by a cloud of mauve-pink flowers. These are followed by light glaucous green foliage.	Prefers a deep sandy loam, although it is widely tolerant and succeeds on chalk. Should be transplanted when quite young, preferably in late spring.
Fairly vigorous	Deciduous	A variety of Laburnum with extremely long slender racemes of golden flowers in late May and June. The seeds of the Laburnum are poisonous, but this variety has few seeds and is therefore less dangerous than others.	Tolerant of most soils; and very easy to cultivate.
Slow	Deciduous	Usually grown in bush form, and is rarely more than 20 ft. high. It has a delightful informal spreading habit, with smooth grey bark. The large white flowers with rosy-purple outsides are borne in a candelabra fashion before the leaves in April.	The Magnolias are difficult to move and are best transplanted in April when quite small. This strong growing variety likes a good loamy soil best and abundant moisture.
Slow	Deciduous	Brilliant red foliage in autumn and mahogany-coloured peeling bark.	Grows on most soils.
Moderate	Deciduous	A low spreading tree of picturesque habit. With its dense foliage and branches, it is semi-pendulous. Large white single flowers at the end of May or June followed by brown fruit.	The Medlar is widely tolerant of any soils but prefers a retentive one.
Moderately fast	Deciduous	An attractive tree with light ash-like foliage; erect growth when young, becoming more spreading with age. Flowers white in flattish corymbs, followed by bright red berries in August. The foliage turns attractive shades in the autumn. There are a number of varieties.	Thrives almost everywhere.
Moderately fast	Deciduous	A very pretty form with more deeply cut fern-like leaves.	Easily cultivated and thrives almost everywhere.

Ref. No.	Common Name	Latin Name	Climatic Conditions
105	Mountain Ash	*Sorbus commixta*	Hardy
106	Mountain Ash	*Sorbus discolor*	Ditto
107	Mountain Ash	*Sorbus hupehensis*	Ditto
108	Mountain Ash	*Sorbus vilmorini*	Ditto
109	Mulberry	*Morus nigra*	Hardy; best in the south of England; smoke resistant.
110	Pea-tree	*Caragana arborescens*	Very hardy
111	Pear; Willow-leaved	*Pyrus salicifolia* var. *pendula*	Hardy
112	Pine; Beach Pine	*Pinus contorta*	Hardy
113	Pine; Mountain Pine	*Pinus mugo* var. *pumilio*	Very hardy
	*Pine		
114	Plum; Flowering. Purple-leaved Cherry Plum	*Prunus cerasifera* var. *atropurpurea* (syn. *P. pissardii*)	Hardy; will not stand smoke conditions.
115	Plum; Flowering. Dark Purple-leaved Cherry Plum	*Prunus cerasifera* forma *nigra*	Ditto

* For other Pines see pages 54 (Large) and 62 (Medium).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Moderate	Deciduous	A tree of the Mountain Ash group often of more or less columnar shape. The fruit is scarlet and the foliage turns red in autumn. A good street tree.	Easily cultivated and thrives almost anywhere.
Moderate	Deciduous	A pyramidal tree of the Mountain Ash group. It has beautiful autumnal tints and orange-red berries. Makes a good street tree.	Ditto
Slow	Deciduous	A handsome species of the Mountain Ash group, with attractive bluish-green foliage, which also takes on beautiful autumnal tints. The fruit is white tinged with pink.	Ditto
Slow	Deciduous	A handsome small tree of open habit and fern-like leaves. A good tree for limited spaces. Can also be planted in a bush form. Clusters of pure white blossom, followed by rosy-red fruits which change to pinkish-white.	Requires a moist soil. Standard trees 8 ft. to 9 ft. high or bushes may be planted.
Slow	Deciduous	A very long lived tree, with a rugged picturesque habit and a broad spreading head of branches. It has a compact rounded shape when young. (*M. alba* is the variety on which silkworms feed.)	The lush fruits of the Mulberry may be a nuisance if it is planted to overhang paths. Plenty of space must be allowed for its spreading habit to develop. It withstands London smoke conditions well.
Vigorous	Deciduous	A large shrub of rather erect habit which by pruning can be made to take the form of a small tree. It has long sparsely branched shoots which bear thorns, delicate foliage and single yellow pea-like flowers in May.	Very adaptable and easy to cultivate, growing on light gravelly and poor soils, but requiring good drainage. This species produces seeds, and grows readily from seed. Thrives in sunny places. Best for group planting.
Moderate to slow growing	Deciduous	A small silver-leaved tree with a graceful pendulous habit. It has clusters of white flowers in April and long leaves coated with silvery-grey down. It remains a lovely grey tree throughout the summer.	Prefers a good loam with an alkaline reaction.
Slow	Evergreen	A most picturesquely twisted small pine, with dark green needles. Very good for shelter in exposed places.	Grows well on light stony soils; not satisfactory on chalk.
Slow	Evergreen	A small spreading tree, 7 ft. to 8 ft. high, with dark green foliage. It will form a dense mass, suitable for planting on banks.	Easily grown; thriving on the poorest soils; will transplant very well.
Moderate	Deciduous	The foliage of this small round headed tree is the colour of Copper Beech and is at first a tender ruby red. It has single white flowers in early spring just as the leaf buds are bursting.	Tolerant of a wide range of soil conditions. Trees can be pruned to form a hedge.
Moderate	Deciduous	A variety with darker foliage and single pink flowers.	Ditto

Ref. No.	Common Name	Latin Name	Climatic Conditions
116	Plum; Flowering. Purple-leaved Cherry Plum	*Prunus blireiana* (syn. *P. cerasifera atropurpurea* × *mume*)	Hardy; will not stand smoke conditions.
117	Privet (Glossy)	*Ligustrum lucidum*	Hardy
118	Sea Buckthorn	*Hippophae rhamnoides*	Very hardy
119	Snowy Mespilus	*Amelanchier laevis*—Wieg. (syn. *A. canadensis*—Gray, not Med.)	Hardy
120	Spindle Tree	*Euonymus europaeus*	Very hardy
121	Strawberry Tree	*Arbutus unedo*	Hardy
122	Sumach; Stag's-Horn Sumach *Sumach	*Rhus typhina*	Hardy
123	Thorn; Common May or Hawthorn (Quick)	*Crataegus monogyna*	Very hardy. Will grow densely in exposed positions, though with distortion.
124	Thorn; Hawthorn	*Crataegus oxyacantha*	Very hardy

* For another Sumach (Varnish Tree) see page 62 (Medium).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Slow	Deciduous	A small round headed tree with bronzy leaves, and rosy-pink double flowers borne on the bare twigs in early spring.	Tolerant of a wide range of soil conditions. Trees can be pruned to form a hedge.
Moderate	Evergreen	A fine handsome evergreen shrub or small tree with extra large dark green leaves; it has white flowers in August and September.	Grows on most soils; thrives with some shade.
Vigorous	Deciduous	A vigorous shrub, or sometimes a striking upright branching small tree, with silver-grey leaves, and orange-yellow berries on the female plant. Excellent for planting near the sea.	Although thriving near the sea, it will grow equally well inland, and in most soils. Not suitable, however, for fully urban sites. Unisexual, therefore one male should be planted with several females. Produces vigorous sucker growths, so sites should be carefully chosen.
Slow	Deciduous	A shapely small tree with a twiggy rounded head, perhaps best in its bush form. This tree is covered with a foaming mass of small white flowers in April, which is followed by brilliant autumn tints.	Best for group planting.
Moderately rapid	Deciduous	A shrub or small tree. Has good striking coloured red autumnal foliage and a mass of orange-red fruit.	Easily cultivated on well-drained loam; grows well on chalky soils.
Slow	Evergreen	A shrub or small tree. Has shining dark green leaves; strawberry-like orange-red fruit; and flowers greenish-white or tinged pink, produced at the same time as the fruit of the previous year's flowers in the early winter.	Thrives well on limestone, but will grow well on peat or loam. Transplant in early autumn or spring.
Very quick	Deciduous	An open, forked shrub or small tree. Its leaves turn scarlet in September and October.	Grows everywhere and tolerates poor soils and town conditions.
Slow in height but rapid in thickness	Deciduous	Will grow into a dense round headed small tree. The stem and branches often develop into interesting gnarled and twisted forms. The leaves appear in early March well before the flowers in May. In autumn abundant haws appear on the single flowered varieties of thorn. There are many garden varieties. *Crataegus monogyna* is more formidably armed than *C. oxyacantha* and is the species in common use for hedging plants; it will also usually grow into a larger tree.	Is tolerant of a wide range of soils except for extremely wet or acid conditions.
Slow in height	Deciduous	A small thorny tree with white flowers in May and red berries in autumn. There are several varieties of this tree.	Ditto

Ref. No.	Common Name	Latin Name	Climatic Conditions
125	Thorn; Double Pink Thorn	*Crataegus oxyacantha* var. *rosea plena*	Very hardy
126	Thorn; Double White Thorn	*C. o.* var. *plena*	Ditto
127	Thorn; Paul's Double Scarlet Thorn	*C. o.* var. *coccinea plena*	Ditto
128	Thorn; Single Red Thorn	*C. o.* var. *punicea*	Ditto
129	Thorn; Cockspur Thorn	*Crataegus crus-galli*	Ditto
130	Thorn (Hybrid)	*Crataegus* × *lavallei* (syn. *C.* × *carrierei*)	Hardy
131	Whitebeam	*Sorbus aria*	Very hardy; smoke resistant; suitable for seaside and exposed places.
132	Whitebeam	*S. a.* var. *lutescens*	Ditto
133	Whitebeam	*S. a.* var. *majestica*	Very hardy
134	Whitebeam; Swedish Whitebeam	*Sorbus intermedia*	Very hardy; smoke resistant.
135	Willow; Violet Willow	*Salix daphnoides*	Hardy
	*Willow		
136	Yew; Irish Yew	*Taxus baccata* var. *stricta* (syn. *T. b.* var. *fastigiata*)	Very hardy
	†Yew		

* For other Willows see page 64 (Medium). † For English Yew see page 64 (Medium).

Rate of Growth	Deciduous or Evergreen	Description	Cultural Notes
Slow in height	Deciduous	Double pink variety	Standards with clear stems are available up to 6 ft. in height, and in some instances larger specimens can be obtained.
Slow in height	Deciduous	Double white variety	Ditto
Slow in height	Deciduous	The best of all the double red varieties.	Ditto
Slow	Deciduous	Single red thorn.	Ditto
Moderate	Deciduous	Small, usually flat-topped tree with spreading, often horizontal, branches. This beautiful Thorn with its picturesque habit has abundant white blossoms, brilliant scarlet autumn colour and berries, which persist from October until mid-winter.	Ditto
Moderate	Deciduous	A handsome hybrid with large white flowers under deep green leaves. Large orange-red berries persist on the tree well into the New Year.	Ditto
Moderate	Deciduous	An attractive tree in appearance. The white undersides to the leaves, which turn yellow in autumn, contrast well with its masses of bright red fruit.	Grows freely in most well drained soils, especially good on chalk; withstands winds and is good in industrial areas.
Moderate	Deciduous	A variety with yellowish "down" on the greyish leaves in spring. Has a compact habit. Suitable for street planting.	Ditto
Moderate	Deciduous	The best of all varieties, having larger leaves and fruit. In other details does not differ from *Sorbus aria*.	Ditto
Moderate	Deciduous	A compact tree having greyish-white leaves and bright red fruit.	Very good for street planting and thrives in industrial atmospheres.
Very fast	Deciduous	Erect vigorous tree, its young shoots covered with bluish-white "bloom". Bushy specimens can be cut back every second year to obtain a pleasing winter effect. Has large oval catkins in March.	Can be grown in most soils, and also near the sea.
Slow	Evergreen	Fine erect growing dark green columnar tree, suitable for formal planting.	Thrives on most soils. Planting should be in the autumn or in spring. Liable to damage by heavy snow unless the branches are supported.

ALPHABETICAL LIST OF LATIN NAMES

L = Large Trees M = Medium S = Small

Ref. No.		
101	*Acer griseum*	S
26	*Acer platanoides*	L
27	*A. p.* var. 'Goldsworth Purple'	L
28	*A. p.* var. *schwedleri*	L
29	*Acer saccharinum* (syn. *A. dasycarpum*)	L
67	*Aesculus* × *carnea* 'Briotii' (syn. *A. c. rubicunda*)	M
18	*Aesculus* × *carnea* var. *plantierensis*	L
19	*Aesculus indica*	L
47	*Ailanthus altissima* (syn. *A. glandulosa*)	L
50	*Alnus glutinosa*	M
51	*Alnus incana*	M
119	*Amelanchier laevis*—Wieg. (syn. *A. canadensis*—Gray, not Med.)	S
121	*Arbutus unedo*	S
54	*Betula pendula* (syn. *B. verrucosa*)	M
55	*B. p.* var. *dalecarlica*	M
110	*Caragana arborescens*	S
16	*Carpinus betulus*	L
17	*C. b.* var. *fastigiata* (syn. *C. b.* var. *pyramidalis*)	L
21	*Catalpa bignonioides*	L
9	*Cedrus atlantica glauca*	L
8	*Cedrus libani*	L
98	*Cercis siliquastrum*	S
10	*Chamaecyparis lawsoniana* (syn. *cupressus*)	L
62	*C. l.* var. *allumi*	M
63	*C. l.* var. *lutea*	M
12	*Chamaecyparis nootkatensis*	L
88	*Cotoneaster* 'Cornubia'	S
89	*Cotoneaster frigida*	S
129	*Crataegus crus-galli*	S
130	*Crataegus* × *lavallei* (syn. *C.* × *carrierei*)	S
123	*Crataegus monogyna*	S
124	*Crataegus oxyacantha*	S
127	*C. o.* var. *coccinea plena*	S
126	*C. o.* var. *plena*	S
128	*C. o.* var. *punicea*	S
125	*C. o.* var. *rosea plena*	S
11	*Cupressus macrocarpa*	L
120	*Euonymus europaeus*	S
4	*Fagus sylvatica*	L
7	*F. s. atropunicea* (syn. *F. s.* var. *purpurea*)	L
5	*F. s.* var *cuprea*	L
6	*F. s.* var. *heterophylla*	L
95	*Ficus carica*	S
3	*Fraxinus excelsior*	L
53	*F. e.* var. *diversifolia* (syn. *F. e. monophylla*)	M
52	*Fraxinus ornus*	M
69	*Ginkgo biloba*	M
66	*Gleditschia triacanthos*	M
118	*Hippophae rhamnoides*	S
65	*Ilex aquifolium*	M
97	*I. a.* var. *argentea marginata*	S
96	*I. a.* var. *pyramidalis*	S
74	*Koelreuteria paniculata*	M
99	*Laburnum* × *watereri* (syn. *L. alpinum* × *L. anagyroides* or *L. vossii*)	S
22	*Larix leptolepis*	L
20	*Libocedrus decurrens*	L
117	*Ligustrum lucidum*	S
46	*Liquidambar styraciflua*	L
48	*Liriodendron tulipifera*	L
100	*Magnolia* × *soulangeana*	S
90	*Malus floribunda*	S
91	*Malus* 'Lemoinei'	S
92	*Malus spectabilis*	S
93	*Malus tschonoskii*	S
102	*Mespilus germanica*	S
109	*Morus nigra*	S
76	*Picea omorika*	M
75	*Picea pungens* var. *glauca*	M
70	*Pinus cembra*	M
112	*Pinus contorta*	S
113	*Pinus mugo* var. *pumilio*	S
36	*Pinus nigra* var. *austriaca*	L
37	*Pinus pinaster*	L
71	*Pinus pinea*	M

Ref. No.		
38	*Pinus radiata* (syn. *P. insignis*)	L
39	*Pinus sylvestris*	L
40	*Platanus* × *acerifolia*	L
72	*Populus alba*	M
73	*P. a.* var. *pyramidalis* (syn. *P. a. bolleana*)	M
42	*Populus* × *canadensis eugenei*	L
43	*Populus* × *canadensis* forma *aurea* (syn. *P. c.* 'Van Geertii')	L
45	*Populus nigra* var. *betulifolia*	L
44	*P. n.* var. *italica* (syn. *P. n. pyramidalis*)	L
41	*Populus* × *robusta*	L
84	*Prunus amygdalus* (syn. *P. communis*)	S
59	*Prunus avium*	M
58	*P. a. plena*	M
116	*Prunus blireiana* (syn. *P. cerasifera atropurpurea* × *mume*)	S
114	*Prunus cerasifera* var. *atropurpurea* (syn. *P. pissardii*)	S
115	*P. c.* forma *nigra*	S
87	*Prunus incisa*	S
56	*Prunus padus*	M
57	*P. p.* var. *watereri*	M
85	*Prunus* 'Pandora'	S
60	*Prunus sargentii*	M
86	*Prunus subhirtella* var. *autumnalis*	S
61	*Prunus yedoensis*	M
111	*Pyrus salicifolia* var. *pendula*	S
35	*Quercus cerris*	L
34	*Quercus coccinea* var. *splendens*	L
31	*Quercus ilex*	L
32	*Quercus palustris*	L
30	*Quercus petraea* (syn. *Q. sessiliflora*)	L
33	*Quercus rubra* (Du Roi not L.) (syn. *Q. borealis*)	L
122	*Rhus typhina*	S
78	*Rhus verniciflua*	M
1	*Robinia pseudoacacia*	L
2	*R. p.* forma *bessoniana*	L
79	*Salix alba* var. *calva* (syn. *S. coerulea*)	M
81	*S. a. sericea* (syn. *S. argentea* and *regalis*)	M
82	*S. a.* var. *tristis* (syn. *S. chrysocoma*)	M
80	*S. a.* var. *vitellina*	M
135	*Salix daphnoides*	S
49	*Sequoia gigantea*	L
68	*Sophora japonica*	M
131	*Sorbus aria*	S
132	*S. a.* var. *lutescens*	S
133	*S. a.* var. *majestica*	S
103	*Sorbus aucuparia*	S
104	*S. a.* var. *asplenifolia*	S
105	*Sorbus commixta*	S
106	*Sorbus discolor*	S
107	*Sorbus hupehensis*	S
134	*Sorbus intermedia*	S
108	*Sorbus vilmorini*	S
77	*Taxodium distichum*	M
83	*Taxus baccata*	M
136	*T. b.* var. *stricta* (syn. *T. b.* var. *fastigiata*)	S
23	*Tilia* × *euchlora*	L
24	*Tilia petiolaris*	L
25	*Tilia platyphyllos* var. *rubra* (syn. *T. p.* var. *corallina*)	L
15	*Tsuga canadensis*	L
13	*Ulmus carpinifolia* forma *sarniensis* (syn. *U. stricta* var. *wheatleyi*)	L
14	*Ulmus glabra*	L
94	*U. g.* var. *pendula*	S
64	*Ulmus procera* var. *viminalis*	M

SUMMARY OF PRINCIPAL CHARACTERISTICS OF TREES

NOTE: The trees are listed alphabetically under common names. For easy reference the numbers in the left-hand column are the same as those in the main list.

This table can be used in the first instance to select a tree with particular characteristics suitable for planting under special site conditions. In every case, however, reference should be made back to the main list for confirmation and elaboration. It is not intended as anything more than an initial guide to selection and in no way can replace the fuller information available either in published works (a selection of which is given in the Bibliography), or from persons qualified to give the appropriate advice.

Key to Column Headings in Table

1 { L = Large trees; M = Medium „; S = Small „ }
2 { A = Hardy; B = Not hardy }
3 { A = Smoke tolerant; B = Smoke intolerant }
4 X = For seaside planting
5 X = For alkaline soils
6 X = For screens and shelter planting
7 { A = For street planting; B = For avenue „ }
8 { A = As specimen trees; B = For restricted space }
9 X = Flowering
10 { A = For autumn colour; B = Coloured foliage }
11 { F = Fastigiate; W = Weeping; U = Upright; S = Spreading; S-W = Semi-weeping }

Ref. No.	Common Name	1	2	3	4	5	6	7	8	9	10	11
1	Acacia; False or Locust	L	A	A	X			B	A	X		
2	Acacia; False (*R. p.* forma *bessoniana*)	L	A	A	X			A	B	X		
50	Alder; Common	M	A	A			X					
51	Alder; Grey	M	A	A							B	
84	Almond	S	A	A				A	B	X		
3	Ash	L	A	A	X	X						
52	Ash; Manna	M	A	A	X	X		A	B	X		
53	Ash; One-leaved	M	A	A								
4	Beech	L	A	A		X	X	B	A		A	
5	Beech; Copper	L	A	A		X	X	B	A		B	
6	Beech; Fern-leaved	L	A	A		X			A			
7	Beech; Purple	L	A	A		X		B	A		B	S
54	Birch; Silver	M	A	A				A			A	
55	Birch; Swedish	M	A	A				A			A	
8	Cedar of Lebanon	L	A	B					A			S
9	Cedar; Blue	L	A	B				B	A		B	U
56	Cherry; Bird (*P. padus*)	M	A	A						X		
57	Cherry; Bird (*P. p.* var. *watereri*)	M	A	A				A, B	B	X		
58	Cherry or Gean; Double flowering (*P. avium plena*)	M	A	A				B	A	X	A	

Ref. No.	Common Name	1	2	3	4	5	6	7	8	9	10	11
59	Cherry or Gean; Native (*P. avium*)	M	A	A				B		X	A	
85	Cherry; Flowering (*P.* 'Pandora')	S	A	A				A	B	X	A	U
86	Cherry; Flowering. Autumn	S	A	A					B	X	A	
87	Cherry; Flowering. Fuji	S	A	A					B	X	A	
60	Cherry; Sargent's	M	A	A				A		X	A	S
61	Cherry; Flowering. Yoshino	M	A	A				B		X	A	S
88	Cotoneaster (*C.* 'Cornubia')	S	A	B		X	X				A	
89	Cotoneaster (*C. frigida*)	S	A	A	X	X				X	A	S
90	Crab; Flowering (*M. floribunda*)	S	A	A		X		A	B	X		
91	Crab; Flowering (*M.* 'Lemoinei')	S	A	A		X		A	B	X		
92	Crab; Flowering (*M. spectabilis*)	S	A	A		X		A	B	X		
93	Crab; Flowering (*M. tschonoskii*)	S	A	A				A	B		A	U
10	Cypress; Lawson's	L	A	B		X	X		A		B	
62	Cypress; Lawson's (*C.l. allumi*)	M	A	B		X			B		B	F
63	Cypress; Lawson's (*C.l. lutea*)	M	A	B		X					B	U
11	Cypress; Monterey	L		B	X		X					S
12	Cypress; Nootka	L	A	B			X		A			S-W
64	Elm (*U. procera* var. *viminalis*)	M	A	A	X			B	A		A	
13	Elm; Guernsey or Jersey	L	A	A	X		X	A, B	A		A	U
94	Elm; Weeping	S	A	A	X				A		A	W
14	Elm; Wych or Scots	L	A	A	X						A	
95	Fig	S	A	A		X			B			
15	Hemlock Fir	L	A	B			X					
65	Holly (*I. aquifolium*)	M	A	A	X	X	X		A		A	
96	Holly (*I. a.* var. *pyramidalis*)	S	A	A	X	X	X		B		A	U
97	Holly; Silver variegated	S	A	A	X	X	X		B		A, B	
66	Honey Locust	M	B	A						X	A	
16	Hornbeam	L	A	A		X	X	B	A		A	
17	Hornbeam (Upright variety)	L	A	A		X	X	B	A, B		A	F
67	Horse-Chestnut; Red (*A.* × *c.* 'Briotii')	M	A	A				A	B	X		
18	Horse-Chestnut (*A.* × *c.* var. *plantierensis*)	L	A	A				B		X		S
19	Horse-Chestnut; Indian	L	A	A				B	A	X		S
20	Incense Cedar	L	A	B					A, B		B	U
21	Indian Bean	L	A	A					A	X		S
68	Japanese Pagoda Tree	M	A	A					A	X		S
98	Judas Tree	S	A	A					B	X	A	
99	Laburnum	S	A	A	X	X		A		X		
22	Larch; Japanese	L	A	B							A	
23	Lime (*T.* × *euchlora*)	L	A	A		X		A, B	B	X		
24	Lime; Pendent Silver	L	A	A		X		B	A	X		
25	Lime; Red twigged	L	A	A		X		B	A	X		
100	Magnolia	S	A	A						X		S
69	Maidenhair Tree	M	A	A				B	A		A	U
26	Maple; Norway	L	A	A	X	X		B	A	X	A	

Ref. No.	Common Name	1	2	3	4	5	6	7	8	9	10	11
27	Maple; 'Goldsworth Purple' Norway	L	A	A	X	X		A			B	
28	Maple; Purple Norway	L	A	A	X	X		A			B	
101	Maple; Paperbark	S	A	B		X			B		A	
29	Maple; Silver	L	A	A	X	X			A		A	
102	Medlar	S	A	A		X				X	A	S
103	Mountain Ash (European) or Rowan (*S. aucuparia*)	S	A	A				A		X	A	
104	Mountain Ash (*S. a.* var. *asplenifolia*)	S	A	A				A		X	A	
105	Mountain Ash (*S. commixta*)	S	A	A				A		X	A	U
106	Mountain Ash (*S. discolor*)	S	A	A				A	B	X	A	U
107	Mountain Ash (*S. hupehensis*)	S	A	A				A		X	A	
108	Mountain Ash (*S. vilmorini*)	S	A	A					B	X	A	
109	Mulberry	S	A	A					A			S
30	Oak; Durmast	L	A	A	X				A			S
31	Oak; Holm or Evergreen	L	A	A	X		X	B	A			S
32	Oak; Pin	L	A	A				B	A		A	
33	Oak; Red	L	A	A					A		A	
34	Oak; Scarlet	L	A	A					A		A	
35	Oak; Turkey	L	A	A	X			B	A			S
110	Pea-tree	S	A	A	X					X		
111	Pear; Willow-leaved	S	A	A	X				A, B		B	W
70	Pine; Arolla	M	A	B								
36	Pine; Austrian	L	A	B	X	X						
112	Pine; Beach	S	A	B	X							S
37	Pine; Maritime or Cluster	L	B	B	X							
38	Pine; Monterey	L		B	X	X						
113	Pine; Mountain	S	A	B	X		X		B			S
39	Pine; Scots	L	A	B	X	X						
71	Pine; Stone	M	A	B					A			S
40	Plane; London	L	A	A				A, B	A			
114	Plum; Flowering. Purple-leaved Cherry Plum	S	A	B	X			A		X	B	
115	Plum; Flowering. Dark ditto	S	A	B	X			A		X	B	
116	Plum; Flowering. Purple-leaved Cherry Plum (*P. blireiana*)	S	A	B					B	X	B	
41	Poplar (*P.* × *robusta*)	L	A	A			X	B	A			U
42	Poplar (*P.* × *canadensis eugenei*)	L	A	A					A			U
43	Poplar; Golden	L	A	A	X		X		A			
44	Poplar; Lombardy	L	A	A			X	B	A			F
45	Poplar; Manchester or Downy Black	L	A	A			X	A	B			U
72	Poplar, White (*P. alba*)	M	A	A	X		X		A		B	
73	Poplar; White. Bolle's Poplar	M	A	A	X				A, B		B	F
74	Pride of India	M	A	A						X	A	

Ref. No.	Common Name	1	2	3	4	5	6	7	8	9	10	11
117	Privet (Glossy)	S	A	A			X		B	X		
118	Sea Buckthorn	S	A	B	X		X				A, B	
119	Snowy Mespilus	S	A	A					B	X	A	
120	Spindle Tree	S	A	B		X			B		A	
75	Spruce; Blue	M	A	B					A		B	U
76	Spruce; Serbian	M	A						A, B			U
121	Strawberry Tree	S	A	B	X	X			A	X		
122	Sumach; Stag's-Horn	S	A	A	X	X			B		A	S
77	Swamp Cypress	M	A	A					A		A	U
46	Sweet Gum	L	A	A				B	A		A	
123	Thorn; Common May or Hawthorn (Quick)	S	A	A	X	X	X	A	B	X	A	
124	Thorn Hawthorn (*C. oxyacantha*)	S	A	A	X	X	X	A	B	X	A	
125	Thorn; Double Pink (*C. o.* var. *rosea plena*)	S	A	A	X	X	X	A	B	X	A	
126	Thorn; Double White (*C. o.* var. *plena*)	S	A	A	X	X	X	A	B	X	A	
127	Thorn; Paul's Double Scarlet	S	A	A	X	X	X	A	B	X	A	
128	Thorn; Single Red (*C. o.* var. *punicea*)	S	A	A	X	X	X	A	B	X	A	
129	Thorn; Cockspur Thorn	S	A	A	X	X					A	
130	Thorn (Hybrid) (*C.* × *lavallei* syn. *C.* × *carrierei*)	S	A	A	X	X	X	A	B	X	A	U
47	Tree of Heaven	L	A	A					A		A	
48	Tulip Tree	L	A	A				B	A	X	A	
78	Varnish Tree (Sumach)	M	B	B							A	S
49	Wellingtonia, or Big Tree	L	A	B				B	A		B	U
131	Whitebeam (*S. aria*)	S	A	A	X	X	X	A		X	A, B	U
132	Whitebeam (*S. a.* var. *lutescens*)	S	A	A	X	X	X	A		X	A, B	U
133	Whitebeam (*S. a.* var. *majestica*)	S	A	A	X	X	X	A, B	A	X	A, B	U
134	Whitebeam; Swedish (*S. intermedia*)	S	A	A	X	X	X	A		X	A	U
79	Willow; Cricket Bat	M	A	A	X		X				B	U
80	Willow; Golden	M	A	A	X		X					
81	Willow; Silver	M	A	A	X		X				B	U
135	Willow; Violet	S	A	A	X					X		
82	Willow; Weeping	M	A	A	X				A			W
83	Yew; English or Common	M	A	A		X	X		A			S
136	Yew; Irish	S	A	A		X			A, B			F

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